Medical Botany, Or, Illustrations and Descriptions of the Medicinal ...

John Stephenson, James Morss Churchill

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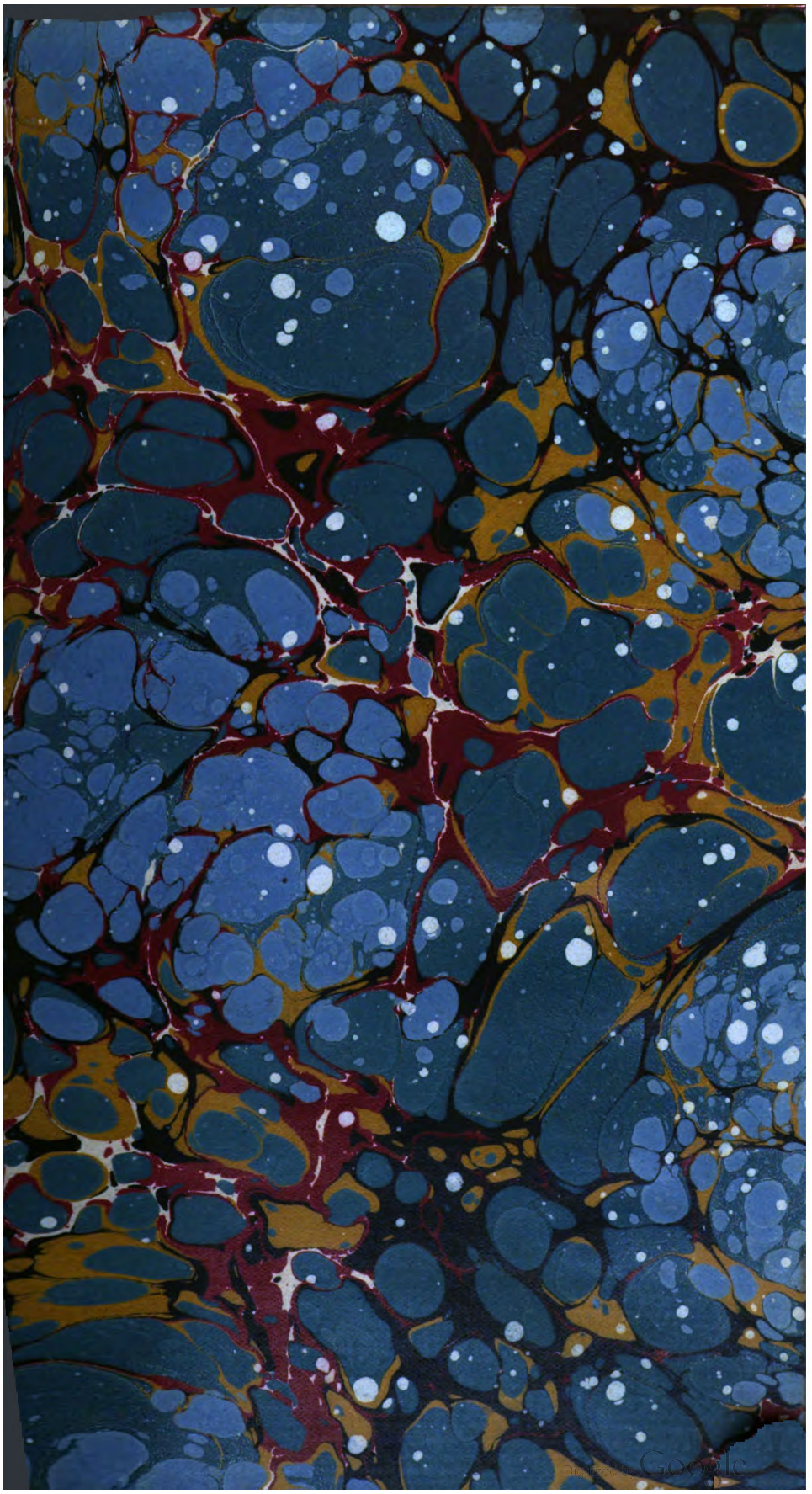
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MEDICAL BOTANY.

VOL. I.

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MEDICAL BOTANY:

OR,

ILLUSTRATIONS AND DESCRIPTIONS

OF THE

Medicinal Plants

OF THE LONDON, EDINBURGH, AND DUBLIN PHARMACOPŒIAS;

COMPRISING

A POPULAR AND SCIENTIFIC ACCOUNT OF ALL THOSE

POISONOUS VEGETABLES

THAT ARE INDIGENOUS TO GREAT BRITAIN.

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GLOSSARY

OF

TERMS USED IN THE GENERIC AND SPECIFIC DESCRIPTIONS,

Acini, the small grains, or berries which compose the fruit of the Mulberry, Bramble, &c.

Aculeate, furnished with *aculei*, or prickles.

Acuminate, pointed; ending in an awl-shaped point.

Adnate, adhering to any thing; close pressed.

Aggregate, collected in a heap or head.

Aggregate flower, composed of several little flowers, or florets, on a common receptacle, and inclosed within one common calyx; as in the Dandelion.

Albumen, the substance which makes up the chief bulk of some seeds, as Grasses.

Alternate leaves or branches, rising singly, one above another.

Amentum. See *Catkin*.

Amplexicaul, clasping the stem. Ex. Lactuca *virosa*.

Annual, plants that live but one year.

Anther, a cellular body placed on the summit of the stamens, and containing the pollen.

Arillus, the proper exterior coat of a seed, that falls off spontaneously.

Arrow-shaped leaf. Ex. Rumex *Acetosa*.

Awl-shaped, gradually tapering to a sharp point.

Awn, a bristle-shaped appendage arising from the glume or chaff in corn and Grasses.

Barren flowers, are those that have no pistils.

Berry, a succulent fruit that contains many seeds; as in Atropa *Belladonna*.

Biennial, vegetating only two years.

Bilobed, having two lobes, or rounded margins.

Bipartite, divided into two parts.

Bipinnate, when two leaflets proceed laterally from one footstalk.

Brachiate, or four ranked, branching alternately in pairs.

Bractea, a floral leaf, attached close to the flower or its stalk.

Bulb, a fleshy mass, usually coated, having small radicles attached to its base; as in the Squill and Onion.

Caducous, soon falling off.

Calyx, the flower-cup; the coloured leaves which inclose the flower, or parts of fructification.

Capsule, a seed-vessel, which generally splits into several valves, and contains many seeds; as in the Poppy and Stramonium.

Carina, the keel, the lower petals of a papilionaceous corolla.

Catkin, (*amentum*,) a long simple stem, covered with scales, under which the flowers are concealed.

Cauline (*caulis*, the stem) belonging to the stem.

Ciliate, furnished with short parallel bristles.

Cluster, see *Raceme*.

Common Calyx, a calyx which contains many flowers; as in Leontodon *Taraxacum*.

Compound flower, when several florets are inclosed in one calyx, and having their anthers united into a cylinder; as in *Leontodon*, *Carduus*, *Tanacetum*.

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Cone, (*strobilus*,) a catkin, the scales of which have become enlarged and woody, as in *Pinus*.

Cordate, heart-shaped.

Corolla, the coloured leaf, or leaves surrounding the interior parts of the flower, and inclosed by the calyx.

Corymb, a mode of inflorescence, when the flowers have each their proper footstalks of an equal height, forming a flat surface.

Cotyledon, a seed-lobe.

Crenate, notched; when the margin of a leaf is cut into teeth that are rounded, and not directed towards either end of the leaf.

Culm, (*culmus*, straw) the proper stem of grasses.

Deciduous, leaves that fall off on the approach of winter.

Decurrent, running down; when the base of a sessile leaf extends itself downwards along the stem or branch, as Centaurea *benedicta*.

Dichotomous, forked, dividing in pairs.

Diœcious, bearing male and female flowers on different plants.

Disc, the central part of a compound radiate flower.

Drupe, a nut covered with a fleshy, succulent or cartilaginous coat; as in the Plum, Almond, &c.

Elliptic leaf, oval; of equal breadth at each end.

Emarginate, notched at the end.

Entire, without notches or teeth.

Epidermis, the external skin.

Exserted, standing forth, as when the stamens appear above the corolla.

Female flowers, where there are no stamens.

Fertile flowers. Where the stamens and pistils are situated in different flowers, that which has pistils is called the fertile flower, as bearing the seed.

Filament, the thread-like part of a stamen, supporting the anther.

Florets, little flowers.

Flower, is usually defined that part of a plant, which is destined for the production of the fruit and seeds.

Frond, the leaf of the Fern and Lichen tribe.

Fructification, the flowers and fruit.

Fungi, mushrooms. Ex. *Agaricus*.

Fusiform, spindle-shaped, tapering; as in the Carrot.

Germen, the base of the pistil, the rudiment of the fruit.

Gibbous, swollen.

Gills (*lamellæ*), the thin plates on the under side of the *Fungi*.

Gland, a little tumour secreting a fluid.

Glaucous, of a sea-green colour.

Glume, the peculiar calyx of grasses, called the *husk*, or *chaff*, when dry.

Herbaceous, perennial plants, which annually perish down to the root.

Hermaphrodite flowers, where there are both stamens and pistils.

Hymenium, the membrane in mushrooms, in which the seeds are imbedded.

Imbricated, laid one over another, like the tiles on a house.

Involucella, the small leaves accompanying the partial umbel.

Involucrum, the small leaves at the base of an umbel.

Laciniæ, segments or incisions.

Lamellæ. See *Gills*.

Lanceolate, spear-shaped; attenuated at both extremities.

Leaflet, a diminutive of leaf; put for the component leaf, in compound leaves.

Leaves, are generally membranous, pulpy, and vascular, sometimes very succulent, greenish bodies, produced on different parts of the stem.

Legume, a dry, elongated seed-vessel of two valves, to the margin of the under surface of which the seeds are attached.

Ligulate, shaped like a strap or ribbon; as the florets of the Dandelion.

Limb, the upper expanded part of a monopetallous corolla.

Linear, equal in breadth throughout.

Male flowers, containing stamens, but no pistil.

Monœcious (*monœci*), having stamens and pistils in different flowers, but growing on the same plant.

Monopetallous, consisting of one petal.

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Mucronate, (mucronatum or *Cuspidatum)* sharp-pointed; tipped with a rigid spine; as in Pistacia *Lentiscus.*

Nectary, that part of the corolla which either secretes the honey, or serves to protect various parts of the plant.

Nut, a seed covered with a hard shell, that does not separate into distinct valves.

Officinal, plants used in medicine, and kept in the shops.

Oblong, three or four times longer than broad.

Obovate, of the shape of an egg cut lengthwise, with the broad end uppermost.

Opposite, growing in opposite pairs.

Ovate, of the shape of an egg cut lengthwise.

Ovate-oblong, oblong egg-shaped.

Palmate, cut into several equal segments, leaving an entire space like the palm of the hand.

Panicle, a loose spike of flowers variously subdivided.

Papilionaceous, resembling a butterfly. Ex. *Dolichos.*

Pappus, the seed down; as in the Dandelion.

Peduncle, the flower-stalk, supporting the fructification only.

Pedicel, a partial flower-stalk.

Perennial, continuing several years.

Pericarpium, the seed-vessel.

Petal, the coloured leaf, or leaves of the corolla.

Petiole, a foot-stalk, or leaf-stalk.

Pileus, a hat, the broad part, in the Agaric tribe, which covers the fructification.

Pinnate leaf, a compound leaf, having a simple petiole, connecting two rows of leaflets.

Pistil, a small columnar body standing in the middle of the stamens, which is essential to fructification.

Pollen, the fine powder contained in the anther, and designed for the impregnation of the germen.

Pubescent, covered with hairs.

Raceme, consists of a number of petioled flowers, connected together by one common stalk; as a bunch of Grapes.

Radical, springing from the root.

Radius, the *Ray,* the marginal florets of a compound flower.

Ray, the flower-stalk of an umbel.

Receptacle, the base connecting the other parts of the fructification.

Rhomboid, or diamond-shaped. Ex. Chenopodium *olidum.*

Runcinate, or lion-toothed, cut into several transverse, acute segments, pointed backwards; as in Leontodon *Taraxacum.*

Scabrous, rough with tubercles.

Scape, a stalk bearing the flowers and fruit, but not the leaves.

Serrate, toothed like a saw.

Sessile, sitting close, without any foot-stalk.

Sheath, a prolongation of the leaf, which rolls itself around the stem, and forms a cylinder; as in all the Grasses.

Siliqua, a *Pod,* consisting of two valves, to the inner margins of both sutures of which the seeds are attached; as in *Sinapis.*

Sinuate, scolloped; as the leaf of the Oak.

Spadix, an elongated receptacle, inclosed in the spathe; as in *Arum.*

Spathe, (spatha) a kind of calyx, bursting horizontally in the form of a sheath. Ex. Arum *maculatum.*

Spike, where numerous florets sit on a simple flower-stalk; as in Lavandula *Spica.*

Spikelet, or *Spicule,* a partial spike, or subdivision of a spike.

Sporæ, the seeds of *Fungi.*

Stamen, an organ in flowers, commonly of a thread-like form, bearing the anther.

Stigma, the top of the pistil.

Stipes, the stem of a mushroom.

Stipula, or *Stipule,* a leafy appendage at the base of the foot-stalks, or leaves.

Strobile. See *Cone.*

Style, the middle part of the pistil connecting the stigma with the germen.

Tendril (cirrus,) or Clasper, a filiform slender body, by which a weak plant supports itself on other bodies; as the Vine.

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Ternate, having three leaflets on one petiole.

Thallus, same as *Frond*.

Tomentose, downy.

Trifid, 3-cleft, or cloven into three parts.

Truncate, cut off in the end, by a transverse line.

Umbel, several flower-stalks of equal length, that rise from a common centre, like the sticks of an umbrella.

Valve, the outer covering of a seed-vessel, or the several pieces which compose it.

Verticilate Plants, having the flowers growing in a whorl.

Vexillum, the standard, the upper large petal of a papilionaceous flower.

Villous, covered with soft hairs.

Volva, the wrapper, the covering which surrounds the young Fungus, and bursting, forms a ring upon the stalk. Ex. *Agaricus*.

Whorl, a mode of inflorescence, in which several flowers surround the stem or branch in a ring.

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ABBREVIATIONS

OF

WORDS AND TITLES OF BOOKS EXPLAINED.

Achar. Lichen. Univ.—ACHARIUS (Erick). Lichenographia Universalis. 1 vol. 4to. Gottingen, 1810.

Achar. Meth. Lich.—ID. Methodus quâ omnes detectos Lichenes ad genera, &c. redigere tentavit. 1 vol. 8vo. Stockholm, 1803.

Achar. Prodr.—ID. Lichenographiæ Suecicæ Prodromus. 1 vol. 8vo. 1798.

Acta Berol.—Mémoires de l' Académie Royale des Sciences de Berlin. 4to. Berlin, 1770-1816.

Acta Erud.—Acta Eruditorum quæ Lipsiæ publicantur. 50 vols. 4to. 1682-1731.

Acta Harlem.—Verhandelingen uitgeeven door te Hollande Maatschappyder weeten schappen te Haarlem. 8vo. 1754, et seq.

Acta Helvet.—Acta Helvetica physico-mathematico-botanico-medica. 8 vols. 4to. Basil, 1757-1777.

Acta Holm.—Kongl. svenska vetenskaps academiens Handlingar. 8vo. Stockholm, 1739-1816.

Acta Paris.—Mémoires de l' Académie Royale des Sciences. 1 vol. 4to. 1666-1788.

Acta Societ. Batav. — Verhandelingen van het Bataviaash Genootschap der Konstan an wetenschappen. 6 vols. 8vo. Rotterdam, 1779-1792.

Acta Suec.—Acta Literaria Suecica. 1 vol. 4to. Upsal, 1720-1724.

Acta Upsal.—Acta Literaria et Scientiarum Upsaliæ publicata. 8vo. 1720-1816.

Ait. Hort. Kew.—AITON (William). Hortus Kewensis, ed. 2d. 5 vols. 8vo. London, 1810.

Allion. Ped.—ALLIONI (Charles). Flora Pedemontana. 3 vols. folio, Turin. 1785.

Alpin. Ægypt.—ALPINUS (Prosper). De Plantis Ægypti liber. 4to. Venice, 1592.

Alpin. Exot.—ID. De Plantis exoticis libri duo. 4to. Venice, 1656.

Amm. Ruth.—AMMAN (John). Stirpium rariorum in Imperio Ruthено sponte provenientium Icones et Descriptiones. 4to. Petersburgh, 1739.

Amæn. Acad.—Linnei Amœnitates Academicæ, seu Dissertationes antehac seorsim editæ. 10 vols. 8vo. Stockholm and Leipsic, 1749, et seq.

Andrew's Repos.—ANDREWS (Henry). The Botanist's Repository. 10 vols. 4to. London, 1797, &c.

Ann. de Chim.—Annales de Chimie, &c. 99 vols. 8vo. Paris, 1789-1829.

Asiat. Res.—Asiatic Researches, or the Transactions of the Society instituted in Bengal. 4to. Calcutta, 1788, &c.

Aublet. Guia.—AUBLET (Fusée). Histoire des Plantes, de la Guiane Francaise. 4 vols. 4to. London, 1773.

Barrel. Ic.—BARRELIER (James). Plantæ per Galliam, Hispaniam, et Italiam Observatæ, Iconibus æneis exhibitæ. 3 vols. fol. Paris, 1714.

Batsch. Fung.—BATSCH (Aug. John George Charles). Elenchus Fungorum. 4to. Halle, 1783-1789.

Bauh. Hist.—BAUHIN (John). Historia Plantarum Universalis. 3 vols. fol. Yverdun, 1650.

Bauh. Pin.—BAUHIN (Caspar). Pinax Theatri Botanici. 4to. Basil, 1671.

Berg. Mat. Med.—BERGIUS (Peter Jo-

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nas) Materia Medica e Regno Vegetabili. 2 vols. 8vo. Stockholm, 1778.

Berlin Mag.—Berlinischer Magazin, oder gessammite schriften. 4 vols. 8vo. Berlin, 1765-1767.

Bigel. Amer. Med. Bot.—BIGELOW (Jacob). American Medical Botany. 3 vols. 4to. Boston, 1818.

Blackw.—BLACKWELL (Eliz.). A curious Herbal containing 600 cuts of the useful plants. 2 vols. fol. London, 1737.

Bolt. Fung.—BOLTON (James). A History of Funguses growing about Halifax. 4to. Huddersfield, 1788-1791.

Bot. Mag.—The Botanical Magazine. 8vo. 56 vols. London, 1787-1830.

Bot. Reg.—The Botanical Register. 8vo. 15 vols. London, 1815-1830.

Browne Jam.—BROWNE (Patrick). The Civil and Natural History of Jamaica. fol. London, 1756.

Brotero Lusit.—BROTERO (Felix Avellar). Phytographiæ Lusitaniæ selectior. fol. Lisbon, 1800.

Bull. Champ.—BULLIARD. Histoire des Champignons de la France. fol. Paris, 1798.

Bull. Fr. See *Fl. Franc.*

Burm. Zeylan.—BURMANN (John). Thesaurus Zeylanicus. 4to. Amsterdam, 1737.

Camer. Epit.—CAMERARIUS (Joachim). De Plantis Epitome. 4to. Franckfort. 1586.

Catesb. Carol.—CATESBY (Mark). The Natural History of Carolina, Florida, &c. 2 vols. fol. London, 1741-1743.

Clus. Exot.—Clusius (Charles). Exoticarum libri X. fol. Antwerp, 1605.

Clus. Hist.—ID. Rariorum Plantarum Historia. fol. Antwerp, 1601.

Com. Gott. Commentarii Societatis Regiæ Scientiarum Göttingensis. 4to. 1751-1816.

Column. Phytob.—COLUMNA (Fabius). Phytobassanos, 4to. Naples, 1592.

Commel. Hort.—COMMELYN (Caspar). Horti Medici Amstelodamensis Rariorum Plantarum descriptio et Icones. 2 vols. fol. Amsterdam, 1705.

Cornut. Canad.—CORNUTUS (Jacob). Canadensium Plantarum aliarumque nondum editarum Historia. 4to. Paris, 1635.

Dale. Pharm.—DALE (Samuel). Pharmacologia. 4to. London, 1737.

Dalech. Hist.—DALECHAMPS (James). Historia generalis Plantarum. 2 vols. fol. Lyons, 1587.

Dalib. Paris.—DALIBARD. Flora Parisiensis. 12mo. Paris, 1719.

Decand. Astrag.—DECANDOLLE (Augustus Pyramus). Astragalogia. 1 vol. fol. Paris, 1802.

Decand. Pl. Grass.—ID. Plantarum Historia succulentarum. fol. Paris, 1799-1803.

Decand. Prodr.—ID. Prodromus Systematis Naturalis Regni Vegetabilis. 2 vols. 8vo. Paris, 1824.

Desfont. Fl.—DESPONTAINES (René). Flora Atlantica. 2 vols. 4to. Paris, 1798.

Dicks. Crypt.—DICKSON (James). Plantarum Cryptogamicarum Britanniæ Fasciculi. 3 vols. 4to. London, 1785-1793.

Dill. Musc.—DILLENIUS (John James). Historia Muscorum. 4to. Oxford, 1741.

Dioscor.—Dioscoridis libri 8, Gr. et Lat. a Ruellio. 12mo. 1549.

Dod. Pempt.—DODONEUS (Rembert). Stirpium Historia Pemptades Sex. fol. Antwerp, 1616.

Duham. Arbr.—DUHAMEL DU MONCEAU (Henry Louis). Traite des Arbres et Arbustes qui se cultivent en France en pleine Terre. 2 vols. 4to. Paris, 1755.

Ehrh. Pl. Off.—EHRHART (Frederick). Plantæ Officinales, quas in usum studiorum Medicinæ, Chirurgicæ et Pharmaceuticæ collegit et exsicavit. fol. 60 decades. Hanover, 1785.

Eng. Bot.—SMITH (James Edward). English Botany; the figures by James Sowerby. 36 vols. 8vo. London. 1790-1814.

Eph. Nat. Cur.—Academiæ Naturæ Curiosorum Ephemerides, 4to. Franckfort, Jena, Leipsic, Nuremberg, or Vienna. 1670-1722.

Esper. Icon. Fuc.—ESPER (Eug. Jos. Christ.). Icones Fucorum Abbildungen der Tange. 4to. Nuremberg, 1797-1799.

Ferr. Hesp.—FERRARI (John Baptist). Hesperides sive de malorum aureorum cultura et usu. fol. Rome, 1646.

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Fl. Brit.—SMITH (James Edward). Flora Britannica. 3 vols. 8vo. London, 1800-1804.

Fl. Dan.—Icones Plantarum sponte nascentium in regnis Daniæ et Norvegiæ, &c. 9 vols. fol. Copenhagen, 1761-1829.

Fl. Franc.—BULLIARD. Herbier de la France. fol. Paris, 1786.

Fl. Græc. Sibth.—SIBTHORP (John). Flora Græca ed. J. E. Smith. 6 vols. fol. London, 1806-1829.

Fl. Peruv.—RUIZ (Hippol.) et PAVON (Jos.). Flora Peruviana et Chilensis. 3 vols. fol. Madrid, 1798-1799.

Forsk. Fl.—FORSKAL (Peter). Flora Ægyptiaco-Arabica. ed. Niebuhr. 4to. 1775.

Fries Syst. Myc.—FRIES (Elias). Systema Mycologicum sistens Fungorum, ordines, genera et species, huc usque cognitas, &c. 8vo. Lund. 1821.

Fuch. Hist.—FUCHSIUS (Leonhard). De Historiâ stirpium commentarii insignes. fol. Basil, 1542.

Gærtn. de Fruct.—GÆRTNER (Joseph). De Fructibus et Seminibus Plantarum. 2 vols. 4to. Stutgard, 1788-1799.

Gater. Montaub.—GATARAU. Description des Plantes qui croissent aux environs de Montauban. 1 vol. 8vo. Montauban, 1789.

Geoff.—GEOFFROY. Traite de Matière Medicale. 16 vols. 12mo. Paris, 1757.

Ger. Em.—GERARD (John). Herball or General Historie of Plants, enlarged and amended by T. Johnson. fol. London, 1636.

Gmel. Flor. Sib.—GMELIN (John George). Flora Sibirica. 4 vols. 4to. Petersburgh, 1747-1769.

Gmel. Hist. Fuc.—GMELIN (Sam. Gottl.). Historia Fucorum. 4to. Petersburgh, 1768.

Gouan. Hort.—GOUAN (Antony). Hortus Regius Monspeliensis. 8vo. Lyons, 1762.

Gray Nat. Arr.—GRAY (Sam. F.). Natural Arrangement of British Plants. 2 vols. 8vo. London, 1821.

Grev. Crypt. Fl.—GREVILLE (Charles Kaye). The Scottish Cryptogamic Flora. 6 vols. 8vo. Edinburgh, 1822-1828.

Grev. Fl. Edin.—ID. Flora Edinensis. 8vo. Edinburgh, 1824.

Gron. Fl. Virg.—GRONOVIUS (J. Fred.). Flora Virginica. Leyden, 4to. 1762.

Hall. Hist.—HALLER (Albert von). Historia Stirpium Indigenarum Helvetiæ. 3 vols. fol. Berne, 1768.

Hall. Opusc.—ID. Opuscula Botanica. 8vo. Gottingen, 1749.

Herm. Prodr.—HERMANN (Paul). Paradisi Batavi prodromus. ed. E. Warton. 12mo. Amsterdam, 1689.

Hernand. Mexic.—HERNANDEZ (Francis). Nova Plantarum, Animalium, et Mineralium Mexicanorum Historia. fol. Rome, 1651.

Hoffm. Pl. Lich.—HOFFMAN (George Francis). Plantæ Lichenosæ. 2 fasc. fol. Leipsic, 1789-1791.

Hook. Bot. Misc.—HOOKER (William Jackson). The Botanical Miscellany. 8vo. London, 1829-1830.

Hook. Exot.—ID. Exotic Flora. 3 vols. 8vo. Edinburgh, 1825-1827.

Hook. Scot.—ID. Flora Scotica. 8vo. London, 1821.

Hort. Cliff.—LINNEUS (Charles). Hortus Cliffortianus. fol. Amsterdam, 1737.

Hort. Berol.—WILLDENOW (Charles Lewis). Hortus Berolensis. fol. Berlin, 1806-1810.

Hort. Kew.—See *Ait. Hort. Kew.*

Host. Gram.—HOST (Nicholas Thomas). Icones et Descriptiones Graminum Austriacorum. 4 vols. fol. Vienna, 1801-1809.

Huds. Fl. Angl.—HUDSON (William). Flora Anglica. 2 vols. 8vo. ed. 2. London, 1778.

Hughes Barb.—HUGHES (Griffith). The Natural History of Barbadoes. fol. London, 1750.

Humb. Pl. Æq.—HUMBOLDT (Alexander, Baron de) et BONPLAND (Amie). Plantes Equinoxiales. 2 vols. fol. Paris, 1808-1816.

Jacq. Amer.—JACQUIN (Nicholas Joseph von). Stirpium Americanarum Historia. fol. 1763.

Jacq. Austr.—ID. Floræ Austriacæ, Icones. 5 vols. fol. Vienna, 1773-1778.

Jacq. Coll.—ID. Collectanea ad Botanicam, Chemiam et Historiam Natu-

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ralem spectantia. 5 vols. 4to. Vienna, 1786-1796.

Jacq. Hort. Vind.—ID. Hortus Botanicus Vindobonensis. 3 vols. fol. Vienna, 1764-1776.

Kempf. Exot.—KEMPFER (Englebert). Amœnitates Exoticæ. 4to. 1712.

Lam. Dict.—LAMARCK (Chevalier de). Dictionnaire Encyclopédique de Botanique. 8 vols. 4to. Paris, 1789-1808.

Lamack, Ill.—LAMARCK (Jean Baptiste Monet de la). Ilustration des Generes. 4to. Paris, 1791, &c.

Lamb. Cinch. — LAMBERT (Aylmer Bourke). Description of the Genus Cinchona. 4to. London, 1797-1801.

Lamb. Illustr.—ID. A Description of the Genus Pinus. fol. London, 1803.

Lamb. Pin—See *Lamb. Illustr.*

Latr. Hist. des Ins.—LATREILLE (Pierre André). Histoire Naturelle generale et particuliére des Crustacés et des Insectes. 14 vols. 8vo. Paris, 1802.

Lindl. Ros.—LINDLEY (John). Rosarum Monagraphia. 8vo. London, 1820.

Lin. Fl. Lapp.—LINNEUS (Charles). Flora Lapponica. 8vo. London, 1792.

Lin. Fl. Suec.—ID. Flora Suecica. 8vo. Stockholm, 1755.

Lin. Hort. Cliff.—ID. See *Hort. Cliff.*

Lin. It. Scan.—ID. Skänska Resa. 8vo. Stockholm, 1751.

Lin. Mant.—ID. Mantissa Plantarum. 8vo. Stockholm, 1767.

Lin. Mat. Med—ID. Materia Medica. 8vo. Stockholm, 1749.

Lin. Sp. Pl.—ID. Species Plantarum; ed. 2d. 2 vols. 8vo. Stockholm, 1762.

Lin. Suppl.—ID. Supplementum Plantarum. 8vo. Brunswick, 1781.

Lin. Syst. Veg.—ID. Systema Vegetabilium; ed. 14. 8vo. Gottingen, 1784.

Lin. Trans.—Transactions of the Linnean Society of London. 4to. London, 1791-1830.

Lob. Advers.—LOBEL (Matthias de). Stirpium Adversaria nova. fol. London, 1605.

Lob. Ic.—ID. Icones Stirpium. 2 vols. 4to. Antwerp, 1591.

Lour. Cochinch.—DE LOUREIRO (John). Flora Cochinchinensis. 2 vols. 4to. Lisbon, 1790.

Lun. Jam.—LUNAN (John). Hortus Jamaicensis. 2 vols. 4to. Jamaica, 1814.

Marcgr. Bras.—MARCGRAVE (George). Historia rerum Naturalium Brasiliæ. fol. Leyden, 1648.

Mart. Rust.—MARTYN (Thomas). Flora Rustica. 4 vols. 8vo. London, 1791, &c.

Matth. Valgr.—MATTHIOLUS (Peter Andrew). Commentarii in Sex Libros Pedacii Dioscoridis; apud Valgrisium. 2 vols. fol. Venice, 1583.

Med. Obs. & Enq.—Medical Observations and Enquiries. 6 vols. 8vo. London, 1763.

Med. Mus.—Medical Museum. 3 vols. 8vo. London, 1763.

Merr. Pin.—MERRET (Christopher). Pinax Rerum Naturalium Britannicarum. 8vo. London, 1667.

Mich. Bor. Am.—MICHAUX (Andrew). Flora Boreali-Americana. 2 vols. 8vo. Paris, 1803.

Mich. Nov. Pl. Gen.—MICHAUX (Peter Ant.). Nova Plantarum genera. fol. Florence, 1729.

Mill Ic.—MILLER (Philip). Figures of Plants described in the Gardener's Dictionary. 2 vols. fol. London, 1760.

Monœ. Meth.—MONCECH (Conrad). Methodus Plantas horti et agri Marburgensis discribendi. 8vo. Marburgh, 1794.

Moris. Hist.—MORISON (Robert). Historia Plantarum Universalis. 2 vols. fol. Oxford, 1680-1699.

Munting. Aloid.—MUNTING (Abraham). Aloidarum, at the end of his Herba Britannica. 4to. Amsterdam. ed. 2. 1698.

Munting. Phyt.—ID. Phytographia curiosa. fol. Leyden, 1702-1727.

Murr. App. Med.—MURRAY (John Andr.) Apparatus Medicaminum. 6 vols. 8vo. Gottingen, 1779.

Nuttal. Gen.—NUTTAL (Thomas). The Genera of North American Plants, &c. 2 vols. 8vo. Philadelphia, 1818.

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Pall. Fl. Ross.—PALLAS (Peter Simon). Flora Rossica. fol. Petersburgh, 1784-1788.

Park.—See *Park. Theatr.*

Park Theatr.—PARKINSON (John). Theatrum Botanicum. The Theater of Plants, or an Herball of a large extent. fol. London, 1640.

Pers. Fung.—PERSOON (Christ. Hen.). Tentamen dispositionis methodicæ Fungorum. 8vo. Leipsic, 1797.

Plenck Icon.—PLENCK (Joseph James). Icones Plantarum Medicinalium secundum Systema Linnei digestarum, &c. 7 vols. fol. Vienna, 1794.

Piso Bras.—PISO (William). Historia Naturalis Braziliæ. fol. Amsterdam, 1648.

Pluk. Alm.—PLUKENET (Leonard). Almagesti Botanici Mantissa. 4to. London, 1700.

Pluk. Phyt.—ID. Phytographia. 4to. London, 1691.

Poll. Palat.—POLLICH (John Adam). Historia Plantarum in Palatinatu Electorali sponte nascentium. 3 vols. 8vo. Manheim, 1776.

Pursh. Fl. Amer.—PURSH (Frederick). Flora Americæ Septentrionalis. 2 vols. 8vo. London, 1814.

Purt. Midl. Fl.—PURTON (Thomas). A Midland Flora. 2 vols. 8vo. Stratford-upon-Avon, 1817. App. 2 vols. 8vo. London, 1821.

Raii Hist.—RAY (John). Historia Plantarum. 3 vols. fol. London, 1686-1704.

Raii Syn.—ID. Synopsis Methodica Stirpium Britannicarum. 8vo. London, 1724.

Redout. Liliac.—REDOUTE (P. J.). Les Liliacées. 8 vols. fol. Paris, 1802, &c.

Redout. Ross.—ID. Les Roses. 3 vols. 4to. Paris.

Reneal. Sp.—RENEALM (Paul). Specimen Historiæ Plantarum. 4to. Paris, 1611.

Retz. Obs.—RETZIUS (Andrew John). Observationes. fol. Leipsic, 1779-1781.

Rheede Hort. Malab.—VAN RHEEDE (Henry). Hortus Indicus Malabaricus, 12 vols. fol. 1678-1703.

Rivin. Monop. Irr.—RIVINUS (Augustus Quirinus). Ordo Plantarum quæ sunt Flore irregulari Monopetalo. fol. Leipsi · 169 0

Rocq. Phyt.—ROQUES (Joseph). Phytographie Medicale. 2 vols. 4to. Paris, 1821.

Roth. Germ.—ROTH (Albert William). Tentamen Floræ Germanicæ. 3 vols. 8vo. Leipsic, 1788, &c.

Roxb. Corom.—ROXBURGH (William). Plants of the Coast of Coromandel. 3 vols. fol. London, 1795, &c.

Rumph. Amb.—RUMPHIUS (George Everh). Herbarium Amboinense. 6 vols. fol. Amsterdam, 1750.

Schkuhr. Handb.—SCHKUHR (Christ.). Botanisches handbuch. 3 vols. 8vo. Wittenberg, 1791–1803.

Schrank Fl. Bat.—SCHRANK (Franc. v. Paul). Baiersche Flora. 2 vols. 8vo. Munich, 1789.

Schæff. Fung.—SCHÆFFER. Fungorum qui in Bavaria et Palatinatu circa Ratisbonam nascuntur icones. 4 vols. 4to. Ratisbon, 1762.

Scop. Carn.—SCOPOLI (John Antony). Flora Carnolioca. 2 vols. 8vo. Vienna, 1772.

Sloan Jam.—SLOANE (Hans.) A Voyage to Jamaica, &c. 2 vols. fol. London, 1707.

Sole Menth.—SOLE (William). Menthæ Britannicæ. fol. Bath, 1798.

Sow. Fung.—SOWERBY (James). Coloured Figures of English Fungi. fol. London, 1796, &c.

Stokes Mat. Med.—STOKES (Jonathan). A Botanical Materia Medica. 4 vols. 8vo. London, 1812.

Swartz Fl. Ind. Occ.—SWARTZ (Olof). Flora Indiæ Occidentalis. 3 vols. 8vo. 1797.

Swartz Obs.—ID. Observationes Botanicæ. 8vo. Erlangen, 1791.

Tabern. Ic.—TABERNÆMONTANUS (Jacob Theodore). Eicones Plantarum. 4to. Franckfort, 1590.

Till. Pis.—TILLI (Michael Angelo). Catalogus Plantarum Horti Pisani. fol. Florence, 1723.

Tourn. Inst.—TOURNEFORT (Jos. Pitton) Institutiones Rei Herbariæ. 2 vols. 4to. Paris, 1719.

Tourn. Voy.—ID. Relation d'un Voyage du Levant. 2 vols. 4to. Paris, 1717.

Trag. Hist.—TRAGUS (Jerome). De Stirpium Nomenclaturis, &c. 4to. Strasburgh, 1552.

Trew. Errh.—TREW (Christ. James). Plantæ selectæ ab Errhet pictæ. Fol. 1750-1773.

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Turn. Hist. Fuc.—TURNER (Dawson). Historia Fucorum. 3 vols. fol. London, 1802, &c.

Tussac. Fl. Ant. — TUSSAC (F. R.). Flore des Antilles. fol. Paris, 1808.

Vahl. Enn.—VAHL (Martin). Enumeratio Plantarum. 2 vols. 8vo. Copenhagen, 1804-1805.

Vesl. Ægypt.—VESLING. De Plantis Ægyptiis Observationes. 4to. 1638.

Villars Dauph.—VILLARS Histoire des Plantes de Dauphiné. 8vo. Grenoble, 1779.

Wahl. Fl. Lapp.—WAHLENBERG. (Geo.) Flora Lapponica. 8vo. Berlin. 1812.

Willd. Sp. Pl.—WILLDENOW (Charles Lewis). Caroli à Linné Species Plantarum. 5 vols. 8vo. Berlin, 1797-1810.

With. Bot. Arr.—WITHERING (William). An Arrangement of British Plants. 4 vols. 8vo. Birmingham, 1796.

Woodv.—WOODVILLE (William). Medical Botany. 3 vols. 4to. 1790; with a Supplement, 1 vol. 4to. 1794.

Fr. French.
It. Italian.
Sp. Spanish.
Port. Portuguese.
Ger. German.
Dut. Dutch.
Swed. Swedish.
Dan. Danish.
Hind. Hindoostanie.
Tam. Tamool.

Chin. Chinese.
Arab. Arabic.
Sans. Sanscrit.
Cing. Cingalese.
Mal. Malay.
Jav. Javanese.
Tel. Telingoo.
Jap. Japanese.
Beng. Bengalie.
Coch. Chin. Cochin-China.

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LIST OF PLATES

IN

VOL. I.

	Plate
Aconitum Napellus	28
Acorus Calamus	32
Æthusa Cynapium	8
Amygdalus communis	43
Anagallis arvensis	16
Anthemis nobilis	38
Arum maculatum	22
Asarum europæum	23
Atropa Belladonna	1
Capsicum annuum	44
Cassia Senna	30
Citrus Aurantium	14
Conium maculatum	13
Convolvulus Jalapa	47
——— sepium	2
Croton Tiglium	4
Datura Stramonium	6
Digitalis purpurea	18
Geum urbanum	36
Gratiola officinalis	33
Helleborus fœtidus	21
——— niger	11
Humulus Lupulus	41

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	Plate
Hyoscyamus niger	9
Iris florentina	27
Lactuca virosa	12
Lavandula Spica	40
Leontodon Taraxacum	5
Lolium temulentum	3
Mentha piperita	45
——— viridis	—
——— Pulegium	—
Momordica Elaterium	34
Morus nigra	39
Nicotiana Tabacum	37
Œnanthe crocata	35
Olea europæa	15
Papaver Rhœas	31
Paris quadrifolia	19
Phellandrium aquaticum	10
Polygonum Bistorta	48
Rheum palmatum	25
Rosmarinus officinalis	24
Sinapis nigra	42
——— alba	—
Solanum Dulcamara	17
Spigelia marilandica	7
Styrax officinale	47
Tormentilla erecta	26
Tussilago Farfara	20
Viola odorata	29

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Pl. 1

Atropa Belladonna

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ATROPA BELLADONNA.

Deadly Nightshade.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLONACÆ, *Juss.*

GEN. CHAR. *Corolla* bell-shaped. *Stamens* distant. *Berry*, globular, 2-celled.

SPEC. CHAR. *Stem* herbaceous. *Leaves* ovate, entire.

Syn.—Belladonna, *Raii. Syn.* 265.
Solanum somniferum, *Buch. Hist. Scotica.*
Solanum Lethale, *Ger. em.* 340. *Park*, 346. *Clus. Hist.* p. 86.
Atropa Belladonna, *Willd. sp. Pl.* 1. 1016. Smith *Fl. Brit.* 255.
Atropa Lethalis, *Salisb. Prodr.* 132.
Belladonna trichotoma, *Scop. carn.* 1. p. 160. *Moench. Meth.* 179.
Solanum Melanoceros, *Bauh. Pin.* 166.
PROVINCIALLY. *Dwale, Deadly Dwale, Black-cherry, Nightshade.*
FOREIGN. *Belladone*, Fr.; *Belladonna*, Ital.; *Toll-kraut*, Ger.

DEADLY NIGHTSHADE, or as it is termed in the Pharmacopœias, Belladonna, is a native of the south of Europe, Austria, and England; and has long been cultivated in our gardens. It is a perennial plant, flowering in June and July; and ripening its berries in September. It grows in many parts of Britain, on a calcareous soil; but is not frequent. It is generally found in shady lanes and hedges, in the neighbourhood of villages and ancient ruins. Belladonna is rarely met with in the neighbourhood of London; but we learn, on the authority of Dr. Milne and others, that it grows in the greatest abundance at Cuxstone, near Rochester, in Kent; also at Wisbeach, in the isle of Ely; in that part of the south-east of Lincolnshire,

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which is called Holland; near Royston, in Hertfordshire; and about Box-hill, near Dorking, in Surrey. It was observed by Mr. Neill on Inchcolm, and among the ruins of Borthwick Castle, near Edinburgh. *Fl. Edinens.*

Belladonna rises from a root, which is thick, fleshy, creeping, and much branched, to the height of three, or four feet. The stem is erect, cylindrical, herbaceous, annual, branching, and generally covered with short hairs. The branches are dichotomous, tinged with purple, and crowded with leaves; which are lateral, ovate, entire, somewhat soft, pointed at both ends, of a dull green colour, and grow in pairs, of unequal size, on short petioles. The flowers are solitary, somewhat drooping, and supported on rather short one-flowered axillary peduncles; the calyx(*a*) is green, persistent, and deeply divided into five ovate seguments; the corolla, monopetalous, bell-shaped, of a lurid purple externally, within paler, dusky, with a yellowish variegated base; and contains five stamens(*b*) shorter than the corolla, arched, and supporting roundish anthers, with a spheroidal germen, bearing a long, simple style,(*c*) and a two-lobed stigma.(*d*) The fruit is a berry, the size of a small cherry, seated within the calyx; it is depressed with a transverse furrow, shining, smooth, of a deep violet black colour, and inclosing within its pulp a number of kidney-shaped seeds.

ATROPA is said to be derived from ATROPOS, one of the evil Destinies. BELLADONNA, in the Italian language, signifies a beautiful woman; and was bestowed on this plant, in consequence of the ladies using its fruit in the composition of their *fucus*, or face-paint. These names, however, were not given, till it was ascertained that it did not belong to the Solanums.

QUALITIES.—The leaves of Belladonna have scarcely any smell, but a slightly nauseous, sub-acrid taste. When dried, and carefully excluded from air and moisture, they retain their active properties for a long time. The juice of the ripe berries, according to Withering, stain paper of a beautiful and durable colour.

CHEMICAL PROPERTIES.—From the recent discoveries of *Brandes*, its active properties appear to reside in a salifiable

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base, termed *Atropia*, or *Atropine*.* To obtain this principle, M. Brandes boiled two pounds of the dried leaves of the *Atropa Belladonna* in a sufficient quantity of water, pressed out the decoction, and boiled the leaves again in some more water. The decoctions were mixed, and some sulphuric acid was added in order to throw down the albumen and similar bodies: the solution was thus rendered thinner, and passed more readily through the filter. The decoction was next supersaturated with potass; by which he obtained a precipitate, weighing, after having been washed with pure water and dried, 89 grains. It consisted of small crystals, from which, by solution in acids, and precipitation by alkalies, *Atropine* was obtained in a state of purity.† Or, *Atropine* may be obtained by digesting the decoction of the herb of the *Atropa Belladonna* with magnesia; boiling the precipitate in alcohol, and filtering: the *Atropine* crystallizes, on cooling, in needles or colourless translucent prisms.‡

Properties of Atropine.—Atropine, as stated by *Brandes*, varies in appearance, according to the method by which it is obtained. It crystallizes only, when rendered perfectly pure, by repeated solution in muriatic acid; and precipated by ammonia. It is much more soluble in hot, than cold alcohol; almost insoluble in water; and entirely so in ether and the oils. It forms with acids, neutral crystallizable salts.

Action of Atropine on the Animal Economy.—When M. Brandes was experimenting on this alkali, he was obliged to desist, in consequence of the violent headaches, pains in the back, and giddiness, with frequent nausea, which the vapour of the salt occasioned: it had, indeed, so injurious an effect upon his health, that he has entirely abstained from

---

* The Atropa Belladonna yields on analysis the following constituents: wax 0.7; resinous chlorophylle 5.84; acid malate of *atropine* 1.51; gum 8.03; fecula 1.25; woody fibre 13.7; phyteumacolle 6.9; a matter analagous to osmagôme, with malate of atropine, oxalate, hydrochlorate, and sulphate of potass 16.05; soluble albumen 4.7; hard albumen 6; ammoniacal salts and acetates, malate of *atropine*, oxalate, malate, sulphate, hydrochlorate, and nitrate of potass; oxalate, malate,(?) and phosphate of lime, and phosphate of magnesia 7.47; water 25.8; loss 2.05. The ashes contain oxide of copper.—*Brandes* and *Vauquelin*.

† Ure's *Chemical Dictionary*, art. *Atropia*.

‡ *Chimie Organique*, par Leopold Gmelin: edition de Virey. p. 398.

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further experiments, and no one has hitherto repeated them. He once tasted a small quantity of the sulphate of Atropine; it was merely saline. He was quickly attacked with violent headache, shaking in the limbs, alternate sensations of heat and cold, oppression of the chest, difficulty of breathing, and diminished circulation of the blood. The violence of these symptoms ceased in half an hour. The vapour, even of the various salts of Atropine, produces vertigo. When exposed for a long time, to the vapours from a solution of nitrate, phosphate, or sulphate of Atropine, the pupil of the eye becomes dilated. This occurred frequently to M. Brandes; and when he tasted the salt of Atropine, the dilatation followed to so great a degree, that it continued for twelve hours, and was not influenced by the different shades of light.*

MEDICAL PROPERTIES AND USES.—The poisonous qualities of Belladonna reside in every part of the plant; but chiefly predominate in the fruit: and we possess but too many well-attested narratives of the fatal effect of its berries; which in appearance are very alluring to children. They are said, however, to be less pernicious than the leaves; and although one, or even half of one, has produced death, Haller informs us, that he has seen a fellow-student eat three or four with impunity. To the most active of the vegetable kingdom, we naturally look for valuable remedial agents: and Belladonna is one which has been frequently administered: but its great power renders it an intractable medicine; and we generally have recourse to it, when unsuccessful by other means. It possesses anodyne and antispasmodic virtues; in small doses, relieving pain; and has a direct action on the brain and nervous system: but in larger doses, according to Dr. Bostock, it exerts its influence on the alimentary canal. Like Digitalis, Nicotiana, and some other narcotics, it sometimes operates as a diuretic; and in a few rare instances, has been known to excite the action of the salivary glands, and to produce salivation.†

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* *Schweigger's Journal*, 28, 1; *Repert. de Buchaner*, ix. 71; *Ure's Chemical Dictionary; Fomulary of several new Remedies*, by T. Haden, fol. 119.

† See *Greeding apud Ludwigii Adversar. Medico-Pract.* vol. i. part 4. and vol. ii. part 2.

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Gesner, in his medical epistles, recommends, a syrup made with the expressed juice of the berries, to be given in *dysentery*, in every case where opium is indicated, and speaks of its efficacy. Cases of its successful use in chorea, epilepsy, and convulsions are recorded. Asthma, paralysis, pertussis, neuralgia-facialis, chronic rheumatism, and the pain attendant on schirrhus, sometimes yield to its influence: but in mania and hydrophobia, it has been most indiscriminately used, and consequently with various results. From its diminishing the velocity of the pulse, it has been given to persons, the subjects of aneurism. The *Archives Generales* for 1823, contains a long article on the employment of Belladonna as a prophylactic in scarlatina. (Vide *Lancet*, vol. i. p. 403.)

As a topical remedy, the powder and decoction have been successfully applied to cancerous and ill-conditioned painful sores: and we have found sciatica, lumbago; the pain of venereal nodes, and anomalous muscular pains, readily yield to the influence of its extract, when used as a plaster. By some, a bougie armed with it has been applied to spasmodic strictures; and if rubbed on the under surface of the urethra in similar cases, it will often relieve; and likewise alleviate the pain of chordee: but even here, its great power cannot be easily controlled; as in some instances the muscles of the perinæum and penis, have been so paralysed for a time, that the urine has flowed away involuntarily.

From its acting on the radiated fibres of the iris, whereby dilatation of the pupil is produced, some dissolved extract is applied to the *brow*, or some infusion dropped into the eye, prior to the operation for cataract:—"A practice," says Dr. MURRAY, in his Materia Medica, "which is hazardous, as the pupil, though much dilated by the application, instantly contracts when the instrument is introduced." It is also applied externally after the operation, to prevent the edge of the iris from becoming adherent to the edges of the torn capsule; and in like manner, when adhesive matter is deposited on the iris through inflammation. And as its effects endure for many hours, the rays of light are extensively admitted on the retina,

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so that persons suffering from incipient cataract, enjoy from its use a considerable, though temporary, improvement of vision.

Dr. Conquest writes—

"In a few of those perplexing and wearisome cases of protracted labour, arising from rigidity of the os and cervix uteri, and which often harasses both patient and practitioner through successive nights and days, I have seen decided benefit result from the introduction of about half a dram of the *Extractum Belladonnæ*, by gently rubbing it about the mouth and neck of the womb. It has suspended unproductive uterine action and produced relaxation of parts, so that on the recurrence of expulsatory pains the os uteri has readily yielded, and permitted the head to pass."

SYMPTOMS.—Dr. Paris, in his Synoptical Table of Poisons, remarks, that Belladonna is one of the narcotico-acrid class, which not only exerts a local action, but poisons by entering the circulation: and thereby acting through that medium, with different degrees of energy on the heart, brain, and alimentary canal. When taken in an overdose, it produces symptoms of intoxication;* vertigo; sickness; thirst; and difficulty of deglutition: the pulse becomes low and feeble; the face swelled; the pupils are dilated; vision is impaired; and these symptoms terminate in convulsions, coma, and paralysis.

Above a hundred and fifty soldiers were poisoned by the berries of Belladonna, which they gathered at Pirna, near Dresden: and the following are the symptoms, as copied from ORFILA, and enumerated in the *Journal de Sedillot*, December 1813, by M. E. Gautier de Claubry. Dilatation and immobility of the pupil; insensibility, almost complete, of the eye to the presence of external objects; or at least confused vision: injection of the conjunctiva by bluish blood; protrusion of the eye, which in some appeared as if it were dull, and in others ardent and furious; dryness of the lips, tongue, palate, and throat; difficult deglutition, or total incapacity to swallow; nausea unattended by vomiting; sense of weakness, lipothymia, syncope; frequent bending forward of

* A fact too obvious to have escaped the penetrating genius of Shakspeare, for in the speech of Banquo to Macbeth, we read,

"Or have we eaten of the insane root,
That takes the reason prisoner?"

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the trunk; continual motion of the hands and fingers; gay delirium, with a vacant smile; aphonia, or confused sounds uttered with pain; apparently ineffectual desires to go to stool; insensible restoration to health and reason, without any recollection of the preceding state.

Buchanan, the Scottish historian, states that the Danes were defeated by the troops of Macbeth, who during a truce, sent bread, and a mixture of wine and ail to Sweno, containing poison. In the subjoined passage, it will be seen that the botanical description of the plant, proves it to have been Belladonna.

"Missa magna vis panis et vini,* tum e vite, tum ex hordeo confecti, ac succo infecti† herbæ cujusdam veneficæ, cujus magna copia passim in Scotia nascitur. Vulgo solanum‡ somniferum vocant. Caulis ei major bipedali in ramos superne diffunditur: folia latiuscula acuminata exteriore parte, ac languide virentia, acini§ prægrandes, ac nigri, cum maturuerunt, coloris, qui e caule sub axilla foliorum exeunt; sapor eis dulcis et propemodum fatuus. Semen habent perexiguum velut fici grana, vis fructui, radici, ac maxime semini somnifera, et quæ in amentiam si largius sumantur, agat. Hac herba cum omnia infecta essent, qui commeatus in castra vehebant, ne qua doli subesset suspitio prægustabant, Danosque magnis poculis invitabant ad bibendum. Idem quoque Sueno ipse benevolentiæ significandæ causa, ut illis nationibus mos est, faciebat."—*Rerum Scoticarum Hist.* lib. vii. cap. 6.

When ANTONY was engaged in the Parthian war, his troops became greatly distressed for provisions, and Belladonna is supposed to be the plant, referred to by Plutarch, in the following passage:—

"Those who sought for herbs and potherbs obtained few that they had been accustomed to eat, and in tasting unknown herbs they found one that brought on madness and death. He that had eaten of it immediately lost all memory and knowledge; but at the same time would busy himself in turning and moving every stone he met with, as if he was upon some very important pursuit. The camp was full of unhappy men bending to the ground; and thus digging up and removing stones, till at last they were carried off by a bilious vomiting, when wine, the only remedy, was not be found."

MORBID APPEARANCES.—Upon examining the bodies of those who have died from the effects of Belladonna, we shall

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* Wine and ale. † Poisonable herbs. ‡ Nightshade. § Berries.

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find that they soon putrefy; swell remarkably, and are covered with livid spots: blood flows from the mouth, nose, and eyes; and the stench is intolerable. If the berries have been taken, they are found to be but partially digested, owing to the extreme torpor of the stomach, produced by them: and the blood is in a dissolved state. Ulcers are likewise to be found, occasionally, on the internal surface of the stomach. The heart and lungs appear livid, and the latter are usually gorged with venous blood, and studded with black spots. In one case, the pericardium contained no serum.

When the quantity of the plant found in the stomach, is, sufficient, we may proceed to identify it by obtaining Atropine, as recommended by Dr. Paris. Dr. Runces, of Berlin, proposes a new method: which consists in boiling the stomach, or intestines of the animal poisoned, and evaporating the aqueous solution, to the consistence of an extract; and applying it with a camel-hair pencil to the eye of an animal, by which dilatation of the pupil is produced. He prefers a cat for the experiment, the shape of its pupil affording the best opportunity of witnessing the phenomenon.

Treatment of Poisoning by Belladonna.—A patient labouring under the effects of this poison, should have his head and shoulders raised nearly to the erect position: and pressure from the neck should be removed. If the extract, or a solution of it, should have been taken, Read's stomach pump may be advantageously employed. The berries, however, are generally the cause of mischief; and the Sulphate of Zinc, or Copper, should be administered in small and repeated doses to excite vomiting: but we should be careful that no great accumulation of these agents takes place, or inflammation may be produced. Should the stupor be very alarming, we must unload the vessels of the brain by bleeding from the jugular vein, and by cold effusions: whereby the torpor of the stomach may be relieved, and the action of the emetic frequently induced. Stimuli may likewise be applied to the eye, or the nose; frictions to the regions of the heart; and sinapisms to the feet. After the stomach has been evacuated of

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its contents, the vegetable acids, especially *vinegar;* diluents; and saline purgatives, must be administered.

Doses.—Its dose is from one to five grains of the dried leaves; or of the extract, which may be gradually increased.

Offic. Prep. Extr. Belladonnæ. *Lond.* Succ. Spiss. Atrop. Bellad. *Ed.*

Formulæ.

Empl. Hydrarg. et Belladonnæ.

℞. Ung. Hydrargyri fort. ℥j.
Gummi Ammoniaci ʒvj.
Extracti Belladonnæ ʒiv.
Acidi Hydrocyanici ʒß.

Reduce the gum ammoniacum to a fine powder, and with the extract, and a little water, form a thick mass. Then rub with them the mercurial ointment and prussic acid (previously mixed) so as to form a uniform mass. This composition, thickly spread on leather, is highly useful as a topical application to scirrhus and scrofulous tumours.

New Medico-Chirurgical Pharmacopœia.

A plaster composed of one part of carbonate of ammonia to three of extract of Belladonna, and spread on soft leather, is an excellent combination, for painful muscular affections.

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Pl. 2

Convolvulus Sepium.

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London Published by John Churchill, Leicester Square, Jan. 1878

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II

CONVOLVULUS SEPIUM.

Great Bindweed.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. CAMPANACEÆ, *Lin.* CONVOLVULI, *Juss.*

GEN. CHAR. *Corolla* bell-shaped, plaited. *Stigmas* two. *Capsule* 2 or 3-celled, each cell containing two seeds.

SPEC. CHAR. *Leaves* sagittate, notched, or truncated at the base. *Peduncles* 4-angled supporting a single flower. *Bracteas* cordate, close to the flower.

Syn.—Convolvulus major, *Raii. Syn.* 275. 1.
Convolvulus major albus, *Park*, 163.
Convolvulus lœtus, *Salisb. Prodr.* 123.
Calystegia sepium, R. Brown, *Prodr. Fl. Nov. Holl.* 483.
PROVINCIALLY. *Hedge Bindweed, Withe-wind, Hedge-Bells.*
FOREIGN. *Le grand Liseron*, Fr.; *Villuchio maggiore*, Ital.; *Glattwinde*, Ger.

THIS species of Convolvulus, which derives its generic and trivial appellations from the convolutions of the stalk, is a perennial plant, growing in woods and moist hedges, in England, and other parts of Europe, America, and Peru. Nearly all the hedge-rows in the vicinity of London abound with it; and it produces its large, elegant, bell-shaped flowers, in July and August. In Scotland, it is comparatively rare. It was found by Dr. Yule near Edinburgh, in a hedge by the road-side, leading from Abbey-hill to Leith; and, by Dr. Hooker, it is mentioned as occurring in plenty about Dumbarton; and on the north bank of the Clyde, four miles below Glasgow.

This plant climbs like a vine, sending up, from a long

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slender, white, fibrous root; several smooth, weak, angular twisted stems; which entwine themselves around any support: and frequently extend to the length of ten or twelve feet. The leaves are large, arrow-shaped, smooth, of a light green colour, placed alternately, and supported on longish foot-stalks. The flowers are on smooth, entire, square peduncles, that proceed singly from the alæ of the leaves; each bearing a very large, monopetallous, bell-shaped, plaited, and obsoletly quinque-lobed snow-white flower. The calyx(*a*) is composed of five oval, obtuse, very small pale-green leaves, that endure till the fruit be ripe. At the base of the calyx, are placed two heart-shaped *bracteas*,(*b*) large, slightly keeled, and of the colour of the leaves. The anthers(*c*) are oval and compressed, on slender filaments, shorter than the corolla. The germen(*d*) is ovate; the style(*e*) is filiform, of the length of the stamina;(*f*) and there are two stigmata.(*g*) The fruit is a globular pointed capsule, composed of two or three valves, and containing two roundish seeds, of a chocolate colour.

PROPERTIES AND USES.—All the species of this genus, or nearly so, possess purgative qualities in a greater or less degree; and to it we are indebted for those valuable articles of the Materia Medica, scammony and jalap. Most writers have ascribed similar virtues to the Convolvulus *sepium;* and others have ranked it amongst our indigenous poisons; but having instituted a series of experiments, we have ascertained that an extract may be obtained from its roots, possessing simply a cathartic power; which entitles it to our consideration as a medicine, easily and cheaply to be obtained.

Twenty pounds of the recent root, which should be collected in April, yielded a watery extract of one pound twelve ounces, possessing no very unpleasant taste. From fifteen to twenty grains of this, act freely on the bowels, as a drastic purgative, and gripe but little. A pill, composed of the extract, with aloes and ginger, in the following proportions, acts with certainty and ease, in doses of ten grains. And we think might with propriety be substituted, in most cases, for the compound extract of colocynth, where economy is required.

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Take of, Scammony, two drachms,
Spiked aloes, six drachms,
Ginger root, one drachm and half. } Powdered.
Extract of Greater Bindweed, one ounce and half.

Mix the powders together; and incorporate them with the extract, adding treacle if required.

Haller affirms that the expressed juice of the herb, which he states to be milky and resinous, taken in the quantity of twenty or thirty grains, possesses the virtues of scammony;* hence it is sometimes called German scammony; and is recommended by Dr. Mason Good as a hydragogue purgative in dropsies. Haller (Op. cit.) likewise remarks, "Cataplasma cum oleo ad tumorem in genu dissipandum imposuit. Canem decoctum non purgavit."

Besides the Convolvulus *sepium*, there are two other species of this genus, natives of Britain, viz. *C. arvensis*, and *C. soldanella*, both of which we have found to possess cathartic powers; but in an inferior degree. The former has, indeed, been ranked among the acrid poisons, upon the most vague and unsatisfactory authority.

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* Haller *Stirp. Indig. Helv.* tom. 2 p. 295.

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Lolium Temulentum.

G. Spratt Del.

London Published by John Churchill Leicester Square. June 1827.

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LOLIUM TEMULENTUM.

Bearded Darnel.

Class III. TRIANDRIA.—*Order* II. DIGYNIA.

Nat. Ord. GRAMINA, *Lin.* GRAMINEÆ, *Juss.*

GEN. CHAR. *Calyx* of one valve, fixed or permanent, inclosing several flowers.

SPEC. CHAR. *Spike* awned. *Spikelets* compressed, shorter than the calyx. *Florets* elliptical, of equal length with the rigid awn. *Root* annual.

Syn.—Lolium album, *Raii. Syn.* 395, 1. *Ger. em.* 78. *Park,* 1145.
Lolium temulentum, *Lin. Sp. Pl.* 122. *Willd.* v. 1. 462.
Lolium annuum, *Lamarck, Pl. Franc.*
Lolium verum, *Mus. Rust,* 6. t. 1. f. 1.
Crachalia temulenta, *Schranc. Fl. Bat.* 255.
Bromus temulentus, *Bern. Eyford.* 419.
PROVINCIALLY. *Intoxicating Darnel; Annual Rye-grass; White Darnel; Annual Darnel-grass. Droke,* Yorksh.; *Sturdy,* Ireland; *Drill,* Isle of Thanet.
FOREIGN. *Ivraie* or *Ivroie,* Fr.; *Loglio,* Ital.; *Jakrige Loch, Germaine Loch, Somme Loch, Schaasgrass,* Ger.; *Joyo, Zizania,* Span.; *Heyre, Heyregrass,* Dan.; *Kukol,* Russ.

THIS is one of the rarer British grasses. It has been, generally, regarded as not unfrequent in many parts of England; but we have never been able to meet with a single specimen, though we have examined a great many localities purposely; and Dr. Bouè, of Geneva, in his Inaugural Thesis published at Edinburgh in 1817, enumerates it among the scarce plants of Scotland.* Dr. Hooker, in his *Flora Scotica,* informs us, that

* Diss. Inaug. de Methodo Floram Regionis cujusdam conducendi, p. 12.

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it is occasionally found in the neighbourhood of Glasgow. It is an annual, growing spontaneously in corn-fields among wheat, barley, and flax; and flowering in July.

The culm or stalk, is erect, cylindrical, striated, three or four feet high, and clothed at the joints, which are from three to five in number, with linear, pointed leaves, a foot or more in length, rough on the upper surface, but smooth below, and of a pale green colour. The sheaths are roughish, striated, and crowned with a short, blunt ligula, slightly notched at the edge. The inflorescence is an erect spike, frequently a foot or more in length. The spikelets are erect, sessile, disposed in two rows, alternately along the rachis or common receptacle, each containing many flowers. The single valve of the calyx is the length of the spikelet, awl-shaped, and without any awn; the terminating flower of each spikelet, and frequently the lower ones, are furnished with a minute elliptical, inner valve. The corolla consists of two unequal valves; the outer, only half the length of the calyx; it is edged with white, and puts forth below the tip, a straight awn, twice its own length. The filaments are three; capillary, shorter than the corolla, and supporting oblong anthers, cloven at each end. The germen is turbinate; styles two, very short; stigmas feathery along the upper side. The seeds are solitary, elliptical, convex on one side, compressed, and attached to the inner valve of the corolla. In some specimens the awns are very short, or altogether wanting. *Lolium arvense* is very nearly allied to this species, but different in having the spikelets mostly destitute of awns, and the spicule and calyx of equal length. *Fig.* (*a*) spikelet; (*b*) under calyx; (*c*) floret; (*d*) germen, and styles.

This is the only species of the extensive natural order, *Gramina*, that is known to possess deleterious qualities. It is the αιρα of Dioscorides; of Theophrastus and Galen: the Zizania or Zinzania of the Arabians: and is generally met with in corn fields; especially amongst wheat, where to a bad farmer, it proves a troublesome and noxious weed. As such, it is referred to by Ovid:—

——— "Lolium, tribulique fatigant
Triticas messes, et inexpugnable gramen."
(*Ovid. Met.* lib. v. v. 485.)

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And in allusion to this, the term LOLLARD was given as a reproach to a religious sect, which arose in Germany about the beginning of the fourteenth century:* also to the followers of Wickliffe in our country, who were considered by the enemies of the reformation, as pernicious weeds in Christ's vineyard, choaking and destroying the pure wheat of the gospel.

"Being an annual plant, (remarks Mr. Sinclair, in his Hortus Gramineus Woburnensis,) it may be easily kept under, or totally extirpated, by the practice of the drill mode of husbandry."

Virgil, in his Georgics, (lib. i. v. 154,) refers to the plant:—

——— "interque nitentia culta
Infelix lolium et steriles dominantur avenæ."

And again, in his fifth Eclogue, (v. 36.)

"Grandia sæpe quibus mandavimus hordea sulcis
Infelix lolium, et steriles dominantur avenæ."

While the late Professor Martyn, in his notes to Virgil, remarks, that the word *dominantur* is very proper, "for these weeds grow so tall that they overtop the corn."

Its name, Lolium, appears to be derived from the Greek, δολον, (deceitful, base, counterfeit,) an opinion having prevailed amongst the ancients, that several species of the noxious weeds, which infest corn-fields, are only species of grain in a degraded or corrupted state. Wild, or barren oat, the Ægilops of Pliny, they conceived to be a degenerated oat, and Darnel, in like manner, to be an inferior kind of wheat or barley. Thus Plautus—

"Mirum est *lolio* victitare te, tam vili *tritico*." †

And so prevalent was this idea even during the last century, that Linnæus wrote a dissertation expressly to refute it. "It seems highly probable," says Milne, "that the Greek ξιξανια,

* Since this article was written, we entertain some doubts as to the correctness of this passage, for on perusing the Eclectic Review for December, we find that in an animated conversation which took place between a Waldensian clergyman, and the Rev. W. Gilly, A.M. Rector of Fambridge, Essex, the former asks, "Whence came your term *Lollards*, but from a Waldensian pastor, *Walter Lollard*, who flourished about the middle of the thirteenth century?"

† Mile's Glorios. act. ii. sc. iii. v. 50.

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which occurs in the 13th chapter of St. Matthew's Gospel, Darnel would have better conveyed the meaning than *Tares.*" And in accordance with this view of the subject, the French always translate it Ivraie, (ivroie) from *enyvrer*, to render drunk.

QUALITIES.—The seeds are inodorous, and have a slight bitterish, disagreeable taste. They are said to redden the blue colour of vegetables; but their chemical properties and composition, have not hitherto been ascertained.

HALLER* states that it possesses intoxicating effects, as its trivial name *temulentum* implies. And whether baked into bread, or fermented in ale, it is attended by very disagreeable, and even fatal effects. It produces headache; vertigo; vomiting; lethargy; drunkenness; difficulty of speech; and the tongue exhibits a very strong trembling: while Seeger remarks, that a trembling of the body, is one of the most certain signs of poisoning by this plant. It also affects with blindness for several hours, and is thus commemorated by Ovid in his Fasti:†

> " Et careant loliis oculos vitiantibus agri
> Nec steriles culto surgat avena solo."

And this property has given rise to the proverb, " He feeds on Darnel," which refers to a dim-sighted person: thus Plautus in the scene referred to above, where Palæstro enquiring what Sceledrus meant by his living on Darnel, receives this answer, *Quia lusciosus*, " because you are purblind." By the Chinese laws (for it is found in China and Japan) it is forbidden to be used in fermented liquors. According to Withering, dogs are particularly affected by it; geese and horses are killed by it; but a small quantity mixed with food, is said to fatten chickens and hogs.

MORBID APPEARANCES, &c.—Dr. Beck remarks, " that it has been a subject of some interest and inquiry whether the spotted fever which ravaged several districts in the United States some years since, had its origin in part, or altogether from eating this substance, combined with grain. The facts

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* Haller. Hist. Stirp. indig. Helv. vol. ii. p. 206.
† Ovid. Fast. lib. i. v. 692,

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adduced are very unsatisfactory; and lead to no definite conclusions. Some observations on the subject are contained in the New-England Journal, vol. v. p. 133, 156, and 285, by Professor Bigelow.

In the years 1722-23, an epidemic prevailed in Muscovy; which was also attributed to Darnel. Medical men were appointed by the government to investigate the subject, and the following were the appearances observed on dissection.

In apertis cultro anatomico cadaveribus omnes partes ac organa tam externa quam interna emaciata, exsucca atque flaccida erant. Cor et vasa sanguifuera parum cruoris retinebant. Ventriculus erat tenuis et contractus ad magnitudinem pugnæ minoris manus, aliquid lymphæ continens: Instestina flatibus reperiebantur tugida: pulmonis et omenti substantia putrida et fere consumpta: hepar maxima ex parte sphacelatum. Hæc facies erat morborum epidemicorum apud adultos. Apud infantes vero cladem enormiorem excitabant variolæ pessimi moris, confluentes et nigræ cum febre maligna, ut plurimum mortem post se trahentes.*

The subjoined cases, addressed to the Editors of the Med. and Phy. Journal, fully illustrate the symptoms produced by it, in England: and it will be perceived that the bread of which it was composed, excited the more violent effects when eaten hot: a fact previously noticed by Linnæus.

"In the month of September a sack of leased wheat with an equal quantity of tarling wheat (*i. e.* the refuse seeds which pass the sieve) abounding very much with darnel (lolium), which by the generality of people, where the plant is much known, is called *cheal*, were ground and dressed together, and in the evening about ten o'clock, bread was made of a part of it. Of this bread, James Edmonds, about thirty-three years of age, and Robert his son, aged thirteen, eat the next morning about three o'clock; at five (two hours after), James became sick and giddy, vomited and purged much, felt pain and tightness in the calves of his legs, was confined at home the whole day, but on the following day was so far recovered, as to be able to resume his work. Robert eat, during the day, about a pound and a half of this bread, and at night on his return from his work, he eat more of the same; he fell giddy, and had pain of the head during the whole of the first day, with great pain and tightness of the legs, especially of the calves of the legs, extending to the ancles, attended with redness

* Schoeber, in *Acta Euid. Ann.* 1723. p. 446.

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and swelling, and itching of the skin, but it did not vomit or purge him till the third day. James, eleven years old—John, three—and Elizabeth, four—all partook of this bread the following morning about nine o'clock. They soon became giddy, were sick, vomited and purged greatly, their legs became painful, felt excessive tight, were swelled, inflamed, and itched much, and continued in that state eight or nine days, when the symptoms gradually disappeared, producing in one of them only (James) a small collection of a gelatinous fluid, in the inside of the foot. But with Robert who eat with his father at three o'clock in the morning, and also in the evening, and who was not vomited and purged till the third day, the pain and inflammation continued to increase till it terminated in gangrene; sphacelous succeeded, and he was under the necessity of suffering amputation of both legs. Very little general fever accompanied this till the latter stage of the disease, which it is presumed, was the effect of absorption. The remedies made use of in this case (and that too without any sensible advantage) were, in the beginning, evacuants, in the latter state, camphor and bark, with the use of spirituous fomentations and antisceptic cataplasms. It should however be remarked, that this poor family lived at seven or eight miles from medical assistance, and therefore they were not attended till two or three days after their attack.

"In several cases which have since occurred, as soon as the legs became painful, atttended with inflammation and swelling, scarifications were made of considerable length and depth, which, with evacuants in the very first stage, and afterwards large doses of camphor, with nitre and opium occasionally, have been attended with success.

"It may perhaps be worthy of notice, to remark that this plant seems to have produced more deleterious effects when eaten quite new and warm, which was the case with James and Robert, at three o'clock in the morning, and there is no doubt but the father would have suffered equally with the son, had it not so soon been thrown off the stomach. There is also another circumstance to be noticed, which is, that all the patients I have seen have universally complained of violent pain in the calves of their legs, and expressing their pain nearly similar, viz. as though their calves were very tightly bound with cords.

"I remain, &c.

"RICHARD MARSH,

"Surgeon (2d Wilts. Militia.)

"*Plymouth Dock, June* 12, 1799."

In the second volume of the "*Histoire de la Societé Royale de Medicine à Paris,*" it is likewise stated that a farmer, his wife, and servant, eat bread made with darnel and wheat. The two latter were attacked with vomiting and purging, and refused to partake of more. The farmer continued to use it the three following days, and died after suffering the most severe colic

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pains. But the affection of the calves of the legs, as noticed by Mr. Marsh, is not spoken of.

During the blockade of Genoa, in 1800, some speculators in grain mixed Darnel with wheat in their supplies. And a family of five individuals having eaten of flour bought in the public market, were all of them soon after seized with dimness of sight; confusion of ideas; prostration of strength; trembling; restlessness; depression of spirits; and cold rigors, especially in the extremities. These were most severe; attended with a disposition to vomit; and continued longest in the maid servant, who had eaten the largest quantity.

Dr. Cordier, in a paper addressed to M. Orfila, describes the effects produced upon himself by the ingestion of bread made of the farina of the seed of lolium temulentum. It was taken in the quantity of six drams, without other food, early in the morning; and had a peculiar slightly disagreeable taste. Distraction of thought; indistinct vision; torpor, accompanied with general uneasiness and debility and drowsiness, succeeded by efforts to vomit, speedily came on. Tremor of the limbs; part of the bread rejected by vomiting: great depression: speech difficult: slept for a few minutes; vomited the remainder of the bread with much colourless mucus; slept again at intervals, taking only a little soup, without appetite, till evening, when weakness, and inappetence only remained. Next day, convalescent; but yet a sense of uneasiness in the epigastrium, accompanied by eructations of a peculiar taste, continuing on the following days, and still perceptible in bread containing some portion of darnel. Dr. Cordier was prevented from ascertaining the state of the circulation and respiration, by the general disorder of the system. He concludes from it, that darnel should be ranked amongst the stupifying narcotic poisons; and that its action is especially exerted on the cerebral and nervous systems. The position of many naturalists, respecting the similarity of properties possessed by plants of the same natural family, is thus moreover controverted.*

Medical Properties and Uses.—It will hence appear that both ancient† and modern writers fully agree as to the intoxicating qualities of Darnel grass: and from its resemblance to barley, we fear that beer, not unfrequently owes its powers to it: being credibly informed, by an eminent practical botanist, that two acres of ground in Battersea fields were lately cultivated with it; and we know no other purpose to which it could be applied. As a medicine it is not now employed: but was used internally by the antients in cephalgia, sciatica, gout, &c.

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* Vide Med. Repository, vol. xiii. p. 260.

† Vide Aristoteles. l. V. de somno et Vigil. c. 3. Theophrastus Eres. Hist. Plant. l. 8. c. 5. Plin. Hist. Nat. l. 18. c. 17. Galen. l. 17. simpl. et lib. I. de Aliment. Facult.

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and Aretæus administered it in pleurisy. According to Boerhaave, " it resists putrefaction, if applied externally; and from its cleansing quality, proves highly efficacious in disorders of the skin." Galen applied it to wounds, mixed with vinegar; and Celsus recommended the meal of Lolium to be used in poultices. " Gravioribus vero doloribus urgentibus, cataplasma imponi quoque conveniet, vel ex lolio, vel ex hordeo, cui pinguis fici tertia pars sit adjecta." *

As we have not witnessed the effects of Darnel, we cannot offer any practical information, as to the treatment required. Mr. Marsh, however, has pointed out the plan, which has proved successful in several cases: and one of our Gallic neighbours, after describing in general terms, the symptoms it produces, says, " *il faut provoquer le vomissement avec un grain d'emetique dans beaucoup d'eau tiede, et boire ensuite beacoup d'eau et de vinaigre.*"

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* Aur. Corn. Cels. lib. viii. cap. 9.

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Croton Tiglium.

G. Spratt. Del.

London Published by John Churchill, Leicester Square.

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IV

CROTON TIGLIUM.

Purging Croton.

Class XXI. MONÆCIA. *Order* VIII. MONADELPHIA.

Nat. Ord. TRICOCCÆ, *Lin.* EUPHORBIÆ, *Juss.* TITHYMALOIDES, *Vent.*

GEN. CHAR. Male. *Calyx* cylindrical, 5-toothed. *Corolla* of five petals. *Stamens* ten to fifteen.

Female. *Calyx* polyphyllus. *Corolla* o. *Styles* three, bifid. *Capsule* trilocular. *Seed* one.

SPEC. CHAR. *Leaves* ovate-acuminate, serrate, glabrous. *Stem* arboreus.

Syn.—Ricimoides indica, *Flor. Zeyl.* 343.
Ricinus indicus arborescens, *Chom.* i. 61.
Croton Tiglium, *Lin. Sp. Pl.* 1426. *Willd.* iv. 531. *Sp.* 36.
Pinus indica, *Bauh. Pin.* 492. n. 11.
κροτων, Dioscor. Lignum Mollucense, *Dalech.* ii. 1864. Granum Mollucarum, *Rumph. Amboyn.* iv. 98. t. 42. Cade-avenac, *Rheed. Malab.* ii. 61. t. 33. *Raii. Hist. Plant.* 167. Grana Tiglii, *Lin.* 247. *Vog.* 172. Grana Tilli, *Berg.* 768. *Murr.* iv. 149. Tiglium, *Lew.* ii. 272. Nuclæ catharticæ, *Geofr.* ii. 428.
ORIENTAL APPELLATIONS.—Nervalum cottay, *Tam.*; Jumal gota, *Hind.* and *Duk.*; Dund. *Per.*; Batoo, *Arab.*; Naypalam Vitiloo, *Tel.*; Iayapala, *Can.*; Nepala, *Sans.*; Bori, *Malay.*; Nepālam, *Cyng.*; also Duntibeega, *Sans.*; Cheraken, *Jav.*; Croton, *Fr.*—(*Ainslie.*)

THIS plant is a native of Java and Ceylon, and is found in Malabar, China, Cochin-china, and the Molucca islands. Of nearly ninety species of the genus croton, this is the only one that is purgative.

It is a low tree, seldom exceeding twelve or fifteen feet in height, with spreading branches, and covered with a soft blackish bark. The leaves are alternate, ovate-acuminate, serrated, and

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smooth, having two glands seated at the base, and supported on longish petioles. The flowers are in erect, simple terminating racemes. In the male flowers(*a*) the calyx is cylindrical, and five-toothed; the corolla consists of five straw-coloured petals, and there are from ten to fifteen stamina.(*b*) In the female flowers(*c*) the calyx is many-cleft, and reflected under the germen; there is no corolla, but there are three bifid styles. The capsule(*d*) is trilocular and smooth, each loculus containing one seed. The seeds are about the size of a hazel-nut, somewhat concave on one side, and convex on the other, of a brownish yellow colour.

The Croton Tiglium has excited considerable attention during the last three or four years: for although the active properties of its seeds have been long known under the names *grana molucca*, *tilii grana*, and *grana tiglii*, the violent effects they frequently produced, prevented them from being generally used. It remained for practitioners of the present day, to ascertain their claims to notice: and we are indebted to Dr. Ainslie, Dr. Nimmo, Mr. Frost, and several others, for their scientific and chemical investigations respecting them.

Every part of the plant is endowed with medical virtues, and the pulverized root, acting as a drastic purgative, is considered to be a specific for dropsy at Amboyna and Batavia: while the wood (lignum pavanæ) administered in small doses, exerts diuretic; gentle emetic; and powerful diaphoretic effects. By the Japanese, the leaves, dried and powdered, are externally applied to the bites of serpents. The subjoined form for the preparation of the seeds, as adopted by the native physicians of India, was given by a learned Persee Vydia, of Surat, to Dr. White.

"After having removed the shells from the seeds, tie the kernels in a small piece of cloth like a bag; then put this into as much cow-dung water, as will cover the bag, and let it boil; secondly, when boiled, split the kernels in two, and take a small leaf (filament) from them, which is said to be poisonous; and thirdly, pound the whole into a mass, to which add two parts *katha* (catechú), that is, to one drachm of croton, add two of *katha*, and divide into pills of two grains each. The addition of the katha is said to correct its acrimony altogether, and to prevent any griping from ensuing."*

* Ainslie's Materia Medica, fol. 103.

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Chemical Properties.—" Mr. Frost, found that the expressed oil of the seeds of this plant, was entirely soluble in æther; the oil of turpentine; and particularly so in alcohol. One hundred grains of the seed consisted of

32 shell
68 kernel
100

" One hundred grains of the seed were digested in three drachms of sulphuric æther, sp. grav. 71, and afforded 25 grains of fixed oil.

" Thirty-two grains of the oil were put into a Florence cask, containing some alcohol previously digested on olive oil, to prevent the spirit from dissolving any of the oil of the croton tiglium seed. The mixture was now agitated, and then passed through a filter containing carbonate of ammonia: the filtered solution was then evaporated without heat, and yielded—

" Active matter (soluble in alcohols and æther) combined with a very small portion of fixed oil . . 8.5 grs.
" Inert fixed oil 23.5
32 grs."

According to the experiments of Dr. Nimmo, one hundred grains of the seeds, yield 45 grains of active matter; but Mr. Frost has not been able to discover so great a quantity in any sample he has met with: 32 grains per cent. being the largest proportion. Dr. Paris has repeated some of Dr. Nimmo's experiments, and discovered an active principle analogous to *elatin;* to which he has appropriated the name *tiglin;* that does not appear to possess any of the characters of a salifiable basis.

To obtain the oil, Dr. Nimmo recommends the following plan.

" After digesting the bruised seeds a sufficient time, the whole should be thrown in a filter, closely covered during the process of filtration, and the residium afterwards washed with a little æther. By this process about two drachms of the oil may be obtained from 300 grains of the seeds. Of the oil thus obtained, an alcoholic solution may be prepared, in the proportion of eight drops of the oil, to an ounce of alcohol, as one of the best media for exhibiting it: and as it allows the dose to be readily proportioned, according to the circumstances of the case."

Dr. Nimmo's prescription.

℞ Solut. Alcohol. Crotonis Tiglii ʒß.
Syrup. Simplicis.
Mucil. G. Acaciæ āā ʒij.
Aquæ Distillatæ ℥ß.

Fiat haustus.

After swallowing a little milk, take the draught quickly, and wash it down with the same diluent.

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Medical Properties.—The oil, met with in commerce, is of very unequal powers; a circumstance that accounts for the different versions of its effects; and renders the experiments already detailed, doubly valuable. One drop of it has frequently produced hyper-catharsis, while *ten* of other samples, have been given without effect; being frequently adulterated with an oil obtained from the seeds of the *Jatropha curcas*, and *J. Multifida*. The genuine oil is not to be trifled with;* for it is said by Bergius to produce purging if rubbed on the navel: but administered in small doses of one or two minims to adults, it proves a valuable agent in obstinate constipations of the bowels, when unattended by inflammation: and in apoplexy, convulsions, mania, and other diseases, "which require, along with the complete evacuation of the primæ viæ, the lessening of the circulating mass." It is best administered in pills, conjoined with soap, and an aromatic; or in the form of mixture, blended with mucilage and syrup:—

Examples.

℞ Olei Tiglii gtt vj
Glycyrrh. pulv. ℈j
Saponis duri ʒß
Olei Caryophyl. gtt vj
Syrupi simpl. quod satis sit.
Misce, fiant pilulæ duodecim:—dosis, duæ.

℞ Olei Tiglii gtt vj viij
Mucilaginis Acaciæ
Syrup. Rhœdos. āā ℥iß
Lactis Amygdalæ ℥iv Misce.
Dosis, fluiduncia sextis horis.

Adulterations.—Dr. Nimmo's method, to detect adulterations of the oil:—

"Let a very light phial be counterpoised in an accurate balance; pour into it 50 grains of the suspected oil, add alcohol, (which has been previously digested upon olive oil,†) agitate them well, pour off

* Lewis remarks, "Geoffrey limits the dose to one drop, *which is probably an error of the press, for one drachm.*"

† The object of this preliminary step is to saturate the alcohol with a fixed oil, that it may not dissolve any portion of that in the Tiglium, and thus confuse the

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the solution and add more alcohol as before, until the dissolved portion is diffused in such a proportion of alcohol, that each half drachm measure shall contain equal to one dose of the oil of *Tiglium*, for an adult. By afterwards placing the phial near a fire, to evaporate what remains of the alcohol in the bottle, *if the residium be to that which has been abstracted by the alcohol as* 55 *to* 45, *the oil is genuine.* If olive, or any other oil, little soluble in alcohol, has been employed as the adulterating agent, it is evident that the residium will be in larger proportion; but should *castor oil* have been employed for that purpose, the proportion of the residium will be smaller even than in the genuine medicine."

For much valuable information on the subject of this article, we are indebted to John Frost, Esq. F.L.S. who has kindly permitted us to take our figure, from a drawing in the library of the Medico-Botanical Society; being the only correct representation of that plant hitherto published.

TREATMENT.—The treatment in cases of poisoning, from an improper administration of the oil, should they occur, consists in large draughts of mucilaginous drinks, together with repeated doses of opium, and the general antiphlogistic practice.

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results. The quantity of fixed oil, which alcohol is capable of dissolving is extremely small, and will not, in the least degree, injure the alcoholic solution for subsequent medicinal use.

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Leontodon Taraxacum?

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LEONTODON TARAXACUM.

Common Dandelion.

Class XIX. SYNGENESIA.—*Ord.* I. POLYG. ÆQUALIS.

Nat. Ord. COMPOSITÆ, *Lin.* CICHORACEÆ, *Juss.*

GEN. CHAR. *Receptacle* naked. *Calyx* double. *Pappus* stipitate, hairy.

SPEC. CHAR. *Leaves* runcinate, glabrous, toothed; *outer scales* of the calyx reflexed.

Syn.—Dens leonis, *Raii. Syn.* 170. 1. *Camer. Epit.* 286. *f. Ger. Em.* 290. 1. *Park.* 780.
Leontodon Taraxacum, *Lin. Sp. Pl.* 1122. *Willd. v.* 3. 1544. *Smith Fl. Brit.* 822.
Hedypnois Taraxacum, *Scop. Carn.* II. *n.* 957.
Leontodon Dens leonis, *Lamarck Ency. Method.* 3. 349.
Taraxacum officinale, *Villars Dauph.* 3. 72.
Leontodon vulgare, *Lamarck Fl. Franc.* 2. 113.
Leontodon officinalis, *Withering Bot. Arr.* ed. 4. 679. *Hull.* 173.
FOREIGN APPELLATIONS.—*Dent de Lion; Pissenlit,* Fr.; *Tarassaco,* Ital.; *Cardillos tagarnina,* Span.; *Lowenzahn wurzel,* Ger.

THIS is a well known perennial inhabitant of our meadows, pastures, and gardens, generally despised as a troublesome weed; and flowering from April, till late in autumn.

The root is spindle-shaped, white and fleshy within, and covered externally with a brown epidermis. The leaves all spring from the root; they are numerous, spreading, smooth, of a bright green, tapering towards the root and runcinate, or deeply cut into sharp lobes, unequal, and pointing downwards. The stem, or as it is termed in botanical language, scape, is

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erect, round, smooth, very brittle, tubular, and terminated by a single flower of a golden yellow colour, which expands in fine weather only, and closes in the evening. The common calyx is imbricated and oblong. The proper flower is composed of very numerous monopetalous, equal, ligulate, truncated, five-toothed florets. The five filaments are capillary and slender, with tubulose antheræ. Germen obovate, crowned with a slender cylindrical style, and furnished with two revolute stigmata. The receptacle, to which the seeds are attached, is convex and dotted. The seeds (*a*) are solitary, oblong, scabrous; and supporting a radiated pappus, on a long pedicel.—Fig. (*b*) is a floret somewhat magnified, showing the germen and five united anthers surrounding the forked style.*

DISTINCTIVE CHARACTERS.—Leontodon *palustre*, Marsh Dandelion, which is regarded by some as a distinct species, and by others merely as a variety, may be distinguished from L.

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* As the young botanist generally finds some difficulty in acquiring a clear and precise idea of the structure of the compound flowers, occasioned by the minuteness of the parts of fructification, which are however much larger and more conspicuous in this than in many others of the class Syngenesia, we have taken the liberty to transcribe the following observations from Curtis's *Flora Londonensis*, merely for the sake of illustration. "On examining," says Mr. Curtis, "the flower of the Dandelion, he will find that it is not a double flower, properly so called, as he might be led to think from its fulness; but that it is composed of a great number of *flosculi* or lesser flowers, placed close together, on one common receptacle or bottom, and enclosed by one common or general calyx. On dissecting each of these *flosculi*, he will find them to consist of a *corolla*, or petal, which at bottom is tubular, but towards the extremity flat; that from the bottom or tubular part of the corolla, five *filaments* spring, which are small and short, yet loose and unconnected; thus these filaments are furnished with *antheræ*, which unite together, and form a slender tube. Beneath the corolla is placed the *germen*, or future seed, from whence the *style* or middle part of the *pistillum* proceeds, and passes up through the middle of the flower, betwixt the *filaments*, and through the tube formed by the union of the *antheræ*, and is furnished at the top with two *stigmata* which roll back. At a little distance from the *germen*, the lower part of the *style* is surrounded by numerous upright hairs, which are the future *pappus* or *down*. This down, he will find to be the appearance of the parts of fructification, in a full blown flower."

"Those parts of the flower, which were more immediately, or more remotely necessary to the impregnation of the seed, having now performed their office, decay; the *corolla* with the *stamina* and upper part of the *pistillum* drops off; the seed becomes larger, the lower part of the pistillum remains, is elongated, and becomes the *footstalk* of the *pappus*; and the seed as yet immature, with the pappus as yet moist, are all enclosed and pressed by the *calyx* into a conical form. This is the appearance of the second state. The fructification still going forward, the *seed* becomes ripe and brown. The *pappus* now deprived of its moisture, expands itself in every way; pushes back the calyx, and assumes a spherical form. The seeds fitted for vegetation, and thus exposed, are carried away by the first strong wind, and a 'new race planted far from their native soil.'"

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taraxacum, by its having the outer scales of the calyx shorter, and not reflexed; by the leaves being less runcinate, and the flower and whole plant smaller and more slender. In its sensible qualities it agrees with the preceding species; the distinction, therefore, in a medical point of view, is not very important.

Leontodon, in botany, is derived from λεων, a lion, and ὀδους, tooth, and is so called from the indentments of the leaves, which have been fancifully compared to the jaw or teeth of a lion. Linnæus bestowed this name upon the genus, in preference to the compound one of Dens-Leonis, which had been given by Tournefort; and Taraxacum is said to be an Arabian corruption of τροξιμον, *edule*, one of the names of Ceres. From the receptacle looking bald, after the flowers and seeds are gone, it is sometimes called Monkshead; while, by the French, it is termed *pissenlit*, from its diuretic properties, and has obtained in this country a vulgar designation expressive of the same powers. The English name Dandelion appears to be a corruption of *Dent de lion*.

Qualities and Chemical Properties.—The plant is nearly inodorous, and its taste is somewhat bitter, and sweetly acidulous. Although it yields but little of its virtues either to alcohol or æther, (water being the best menstruum) it has been found on analysis to contain caoutchouc. *Infusion of galls, nitrate of silver, oxymuriate of mercury, acetate of lead, and sulphate of iron, precipitate its decoction*, and are therefore incompatible with it. The milky juice is supposed to contain tartaric acid, as it reddens the vegetable blues; and it is probable, remarks Dr. Todd Thomson, that the active principles of taraxacum are, extractive, gluten, a bitter principle which does not appear to be resinous, and tartaric acid, either free, or as a supertartrate.

Medical and Œconomical Uses.—Dandelion is gently aperient, and diuretic; the whole of the plant possessing these properties; which are most active in the roots. As a domestic medicine it is often administered with superstitious expectations;

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PARK, an old English author, remarking, "whoso is macilent drawing towards a consumption, or ready to fall into a cachexy, by the use hereof for some time together, shall find a wonderful help." Many authorities might be quoted in its favour, but like most of our indigenous medicines it is seldom prescribed. Dr. Pemberton, however, recommended it for visceral affections, and Dr. Good states, "that its obvious character is that of increasing the flow of urine." Boerhaave, also, had a high opinion of its powers, and esteemed it capable, "if duly continued, of resolving obstinate obstructions and coagulations of the viscera:" and having directed our attention to it for several years, we are persuaded that his conclusions are not altogether incorrect. The stomach is frequently irritated by its own secretions, arising from chronic inflammation affecting some of the abdominal viscera, especially the liver; and in protracted cases of this kind, where active treatment would be injurious, the decoctum Taraxaci or the extract, administered three or four times a day, will often prove a valuable remedy. In habitual costiveness, the result of a long residence in hot climates, dandelion is a most efficient medicine; for instead of impairing the constitution further, by producing a purgative action that it may be difficult to controul, it assists the bowels in their functions, and constrains them mildly and regularly to perform them: while Dr. James Johnson, ranks it amongst those agents, that possess the power of preventing the formation of biliary concretions, by keeping up a due and healthy secretion in the liver. As an adjuvant to other more active remedies, it may be prescribed with advantage in dropsical cases, and for induration of the liver; while by our continental neighbours, it is recommended for pulmonic tubercles, and some cutaneous diseases. When its diuretic effect is required, supertartrate of potass may be combined with its decoction or infusion. We have not discovered any narcotic powers from its administration, although they generally reside in the lactescent plants.

It is a fact well known to gardeners, that plants, when blanched, lose many of their active properties; and dandelion

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thus prepared, is frequently eaten on the continent in salads;* and sometimes by the lower class of people in this country, in its native state; while at Gottingen, the roots are roasted and used by the poor for coffee, a decoction of which properly prepared, can hardly be distinguished from the real. The French eat the young roots, and the etiolated leaves, with thin slices of bread and butter; and it is stated, that the inhabitants of Minorca, subsisted on this root, after a swarm of locusts had destroyed the fruits of the earth. Miller remarks, that "goats eat it, swine devour it greedily, sheep and kine are not fond of it, and horses refuse it."

PREPARATIONS.—Lewis justly remarks, that "neither the plant in substance, nor its preparations, bear keeping well; the dried root and its extract losing their bitterness." The extract, indeed, as it is usually made, can scarcely be supposed to have much power, and to the badness of the preparation may be attributed its want of success in many cases. Having seen the extract prepared by a scientific friend, Joseph Houlton, Esq. F.L.S. we do not hesitate to affirm that it possesses *all* the virtues of the plant; and to him we are indebted for the following communication. "I have great pleasure in sending you an account of my method of preparing the *Extractum Leontodinis Taraxaci*, which is as follows:—

"Take of the recent roots of Dandelion four pounds, let them be well bruised in a marble mortar, and the juice expressed; which set aside.

"Moisten the pressed roots with two pints of water, bruise them again, and press off the fluid.

"Then boil the roots, in as much water as may be sufficient, for an hour; press off the decoction; set it aside to cool; then pour it off from the fœces, and mix it with the fluid resulting from the second pressing. Carefully evaporate it with a gentle heat to the consistence of syrup; when cool, let it be intimately mixed with the juice procured by the first pressing; let the extract be now exposed in shallow earthern vessels, (common

* In agro Pariensi frequens ubique nascitur, et in hortis colitur. *Geoff.* iii. 399.

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table dishes or plates will answer the purpose,) until it acquire a stiff pill consistence. If it be left too moist, chemical changes will take place in it, producing acidity.

"Extract of dandelion, prepared in the manner detailed above, I have used *uncombined* in icterus, and in various chronic morbid affections of the digestive organs, with the most decided efficacy.

"The treacle-like trash sold under the name of Extractum Taraxaci, I have ever found to be an inert article.

"I am inclined to judge favourably of the extract prepared by Allen in vacuo: it agrees in its sensible properties with the extract that I make, but it is more liable to become decomposed, from being a moister preparation.

"The most usual modes of exhibition.

"℞ Ext. Leontod. Tarax. ʒj.
"In pilul. duodecim divid. quarum tres ter in die dentur.

"℞ Ext. Leontod. Tarax. ʒj.
"Potassæ Sulphat. ʒj.
"Syrup. Simplic. q.s. ut ft. Massa.
"In pilul. trigenti dividend. tres ter in die dentur."

Offic. Prep. Extractum Taraxaci. *Lond.* et *Dub.*

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Datura Stramonium.

G. Sprott del

London Published by John Harfield Leicester Square Feb.y 1827.

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DATURA STRAMONIUM.

Thorn-Apple.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLANEÆ, *Juss.*

GEN. CHAR. *Corolla* funnel-shaped, plaited. *Calyx* tubular, angular, deciduous. *Capsule* 2-celled, 4-valved.

SPEC. CHAR. *Pericarps* spinous, ovate, erect. *Leaves* ovate, glabrous.

Syn.—Datura Stramonium, *Lin. Sp. Pl.* 255. *Willd. v.* 1. 1008. *Fl. Brit.* 254. *Bull. Fr. t.* 13.
Stramonium, *n.* 586. *Hall. Hist. v.* 1. 258. *Med. Mus.* i. 448. *t.* 6.
Solanum pomo spinoso oblongo, flore calathoide, Stramonium vulgò dictum. *Raii. Syn.* 266. 1.
Stramonium majus album, *Park.* 360. *Raii. Hist.* 748.
Stramonium spinosum, *Ger. Em.* 348. 2. *Lamarck. Fl. Gall.*
Stramonium fœtidum, *Scop. Carn. n.* 252.
Datura lurida, *Salisb. Prodr.* 131.
Solanum Manicum, Dioscoridis, *Column. Phytob.* 46. *t.* 47.
Tatula, *Camer. Epit.* 176. *f.*
Stramonium vulgatum, *Gærtn. Fr. et Sem.*
FOREIGN. *Pomme-épineuse, ou l'endormie*, Fr.; *Stramonio*, Ital.; *Steckapfel*, Ger.

ORIGINALLY imported from America, where it is known under the name of *Apple of Peru, Devil's Apple*, and *Jamestown weed;* but was first cultivated in this country from seeds that were brought from Constantinople by Lord Edward Zouch, about the year 1597, and by the old writers of that period, it is called the "Thorny Apple of Peru." A variety is also native to America, which is generally a larger plant, bearing purple

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flowers, striped with deep purple inside, and having a reddish stem, minutely dotted with green. It is supposed to be the D. *tatula* of Linnæus, and possesses the same sensible and medicinal properties as the plant under consideration.* The common Thorn-apple is an annual plant, frequently observed naturalized on dunghills; in waste places; and near gardens, in the south of England, particularly in the environs of London, whence it has been admitted into our Flora, by Sir J. E. Smith, and figured in "English Botany," t. 1288. Our figure, which is of the natural size, was taken from a very small specimen found on Wimbledon Common, about three miles south of Putney, where we have observed it for several years.

Thorn-apple rises from a white, branched, woody, and fibrous root, to the height of about two feet. The stem is herbaceous, erect, round, smooth, of a yellowish green colour, undivided below, dichotomous above, and cloathed with leaves, springing from the divisions of the stem and branches; which are of a dark green colour on the upper surface, and paler beneath; ovate, pointed, smooth, alternate, sinuated, and toothed, on long cylindrical footstalks. The flowers are large, erect, of a snow white colour, and proceed singly, on short footstalks from the axillæ of the stem and branches. The calyx is monopetalous, oblong, tubular, and five-toothed: the corolla(*a*) is funnel-shaped, with the tube cylindrical, longer than the calyx; limb, spreading, five-angled, acuminate, with five teeth. The filaments are five, awl-shaped, and support oblong flat heart-shaped anthers.(*b*) The style(*c*) is erect, filiform, the length of the stamens, with an obtuse bi-lobed stigma.(*d*) Germen ovate.(*e*) The fruit is a roundish, ovate, capsule, beset with sharp awl-shaped spines, 2-celled, four-valved, and seated on the base of the calyx. Seeds numerous, kidney-shaped.

* Kalm, in his Travels in North America, speaking of this plant, observes, that "it grows in great quantities in all the villages; its height is different according to the soil it is in; for, in a rich soil, it grows eight or ten feet high; but, in hard and poor ground, it will seldom come up to six inches. This *Datura*, together with the *Phytolacca*, or American Nightshade, grow here, in those places near the gardens, houses, and roads; which in Sweden are covered with nettles and goose-foot: which European plants are very scarce in America; but the *Datura*, and the *Phytolacca* are the worst weeds here; nobody knowing any particular use of them."

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The generical name *Datura*, some writers have derived from the American name of this plant, of similar sound, made classical from *do*, *dare*, *daturus*, because it is given as a narcotic. The specific name, stramonium, is supposed to be a corruption of στρυχνομανικον, in reference to its effects in causing madness.

QUALITIES.—Every part of Stramonium when recent, has a strong, heavy, disagreeable odour: in America sometimes so powerful, that intermittent fever has been ascribed to it, which Beck remarks, "is evidently laying too much stress on the plant; but its effluvia is certainly noxious." It possesses a bitter taste, and imparts to the saliva a green tinge, when chewed. Cows, horses, sheep, and goats refuse this plant.

CHEMICAL PROPERTIES.—The virtues of Stramonium, which appear to be extractive, are imparted to water and alcohol; but most readily to the former. This extractive principle, is copiously precipitated from the infusion, by muriate of tin. With *sulphate of iron* it gives a deep green, and sometimes an olive colour; and with *gelatin* undergoes no change. "The watery infusion is transparent, with a very pale yellow hue, which is dissipated by acids, but very much deepened by the alkalies." According to Wedenberg, (in his Dissertatio Medica de Stramonii usu, &c.) it contains gum or mucus; resin, and a volatile principle, which Dr. Todd Thompson pronounces to be carbonate of ammonia. Dr. S. Cooper, of America, by evaporating infusion of Stramonium, observed a large number of minute crystals, resembling particles of nitre: and Professor Bigelow, thinking that they might be analogous to the crystals, obtained by Derosne from opium, instituted a series of experiments to ascertain the fact, but was unsuccessful. Brandes has succeeded in extracting from the seeds* of Stramonium, an

* The seeds yielded the following constituents to that gentleman:—fixed oil 13.85; thick fatty oil 0.8; fatty butyraceous body, with resinous chlorophylle 1.4; wax 1.4; resin insoluble in æther 9.9; yellowish red extractive matter 0.6; malate of *daturine* 1; incrystallizable sugar, with a salt with the base of *daturine* 0.8; gummy extractive matter 6; gum, with different salts 7.9; bassorine, with alumina and phosphate of lime 3.4; woody fibre 22; phyleumacolle 4.55; albumen 1.9; a matter analogous to ulmine, called by M. Brandes *glutenoine* 5.5; malate of *daturine*, malate and acetate of potass, and malate of lime 0.6; a membranous secretion, containing silica 1.35; water 15.1; loss 1.95.

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alkaline principle similar to Atropine in its relations, to which he has given the name *Daturine*. It contains the whole of the poisonous matter of Stramonium, and its vapour is likewise exceedingly prejudicial.

SYMPTOMS.—Stramonium produces intoxication, nausea, delirium, loss of sense, drowsiness, a sort of madness and fury; loss of memory, sometimes transitory and sometimes permanent; convulsions, sense of suffocation, paralysis of the limbs, cold sweats, excessive thirst, dilatation of the pupil, tremblings, and death.

Milne remarks, "Of the intoxicating quality of their native species of Stramonium, the women in some of the Asiatic Islands, we are informed by travellers, so dexterously avail themselves, as not only with impunity to use the most indecent freedoms, but even to enjoy their gallants in the company of their husbands, who, being presented with a proper quantity of this soporific and Lethæan drug, are at first seized with a fatuity, and pleasing delirium, which are soon followed by those very convenient symptoms, stupor, and a total want of recollection:" and so general was this credulity in former times, that the Royal Society gravely inquired of Sir Philberto Vernatti, "Whether the Indians can so prepare the stupifying herb Datura, that they make it lie several days, months, or years, according as they will have it, in a man's body; and at the end kill him without missing half an hour's time?"

In Beverly's History of Virginia, p. 121, we find the following curious passage:—"The Jamestown weed, which resembles the thorny apples of Peru, (and I take it to be the plant so called,) is supposed to be one of the greatest coolers in the world. This being an early plant, was gathered very young for a boiled sallad, by some of the soldiers sent thither to quell the rebellion of Bacon; and some of them ate plentifully of it: the effect of which was a very pleasant comedy, for they turned natural fools upon it for several days. One would blow up a feather in the air, another would dart straws at it with much fury; another stark naked was sitting up in a corner like a monkey, grinning and making mows at them; a fourth would fondly kiss and paw his companions, and sneer in their faces with a countenance more antic than any in a Dutch droll. In this frantic condition they were confined, lest, in their folly, they should destroy themselves. A thousand simple tricks they played, and after eleven days returned to themselves again, not remembering anything that had passed."

"Dr. Rush saw a child between three and four years old, who had swallowed some of the seeds. A violent fever, delirium, tremors in the limbs, and a general eruption on the skin, were present, accompanied with considerable swelling, itching, and inflammation. Repeated emetics and purgatives, alleviated the disease and brought away some of the seeds. Dilatation of the pupils still remained, but

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were obviated by a continuance of the previous remedies, and she recovered."

"In the transactions of the College of Physicians of Philadelphia, Dr. Bartram relates, that he was called to a child suddenly seized with idiotcy without fever. The pulse was natural, tongue clean, and no internal function disturbed, excepting of the brain. The child appeared very happy; talking, laughing, and in constant motion, yet so weak it could not stand or walk, without tottering. He exhibited an emetic, and the seeds of the *thorn-apple* were rejected, after which the child recovered."

"A lady, aged 30, was the subject of intense headache, the pain of which was so intense, as to destroy sleep, and disqualify her for all occupation. It observed periods of three or four hours, with intermissions of from twenty to forty minutes. The digestion was somewhat deranged; the other functions natural. Local and general blood-letting, antimonials, and cinchona had been tried in vain. One grain of extract of Stramonium was given every morning, for four successive days. No relief following, the dose was doubled on the fifth; and in four hours after, all the symptoms of poisoning by Stramonium were developed. The face was of a purple-red colour, and swollen; eyes prominent, pupil dilated; eye-lids half closed, and vision nearly lost; hearing impaired; muscles of the lower jaw, lips, right arm and leg convulsed; left side completely paralyzed, and the intellect singularly disturbed; continual incoherent stammering; weeping, and other expressions of dreadful suffering; deglutition difficult; abdomen sore; pulse small and frequent; respiration tight and hurried; temperature natural; cold sweats confined to the paralyzed foot. Ten leeches were applied behind the ears; synapisms to the feet; injections of common salt and vinegar administered; and vinegar and water given internally. An emetic was not prescribed; the symptoms indicative of absorption, proving that the poison was no longer in the intestinal canal. The phenomena now gradually subsided, and the paralyzed limb began to execute slight movements. About midnight there was another but less violent attack, relieved by antispasmodics. Weakness and indistinct articulation only remained; and the headache never recurred. In nine days the patient was perfectly restored.

"The violent operation of the Stramonium is, in this instance, referred by Orfila to some peculiarity of constitution in the patient: since it may be administered commonly, without inconvenience, in a dose double that which produced the violent effects here described. The case occurred in Minorca: and most of the poisonous plants, Orfila observes, possess greater energy in this and similar situations, than in more northern latitudes. And, again, the inhabitants of the south are endued with a peculiar susceptibility, which renders them more sensible to the action of powerful medicines. However it may be, the fact of a general, and very intense headache having been speedily removed by Stramonium, is worthy of record."

MORBID APPEARANCES.—The stomachs of animals poisoned with the watery extract of Stramonium, were found in-

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flamed: and blood was extravasated between the mucous coat, and the one subjacent to it. The lungs were of a deep red, and distended with black and fluid blood. Haller opened a woman, who was poisoned by Stramonium: the cortical part of the brain was full of blood, and there were some coagula in the cavities of the cranium.

TREATMENT.—The treatment required to counteract the effects of Stramonium, is precisely that which has already been advised for the Atropa Belladonna; to which it is very closely allied.

MEDICAL PROPERTIES AND USES.—Stramonium, like Belladonna, is so powerful in its effects, that it is not very generally employed in this country: and like many other valuable agents, its real utility is depreciated, through the hyperbolical and laudatory strains that have been lavished on it, by its ardent admirers. Baron Stoerck was the first to recommend it in mania and epilepsy; and like other medicines of the narcotic tribe, it has been found to succeed in some instances, and to fail in many others: a fate to be expected, so long as we remain ignorant of the phenomena of life. Dr. Davy, however, has found it useful in the former, by its allaying irritation, and procuring quiet sleep. And Bergius remarks, "Sœpius ipse," (that is, Wedenberg,) "vidi maniacos in integrum restitutos absque relapsu, ex propinato Extracto Daturæ, per tempus quoddam continuato. Delirium post puerperium sæpe curavi cum Datura, ubi alia fefellerunt."

Dr. Fisher, President of the Massachusetts Medical Society, divides the cases of epilepsy into three kinds; those in which the fits return daily; in which they revive at regular periods, as monthly, or give warning of their approach by previous symptoms; lastly, those in which they do not observe any regular period, and do not give any warning of their approach. In the two first kinds he asserts, that all the cases which came under his care, and which were not very few, had been cured by Stramonium. In those of the third kind, he found it of no benefit whatever; Dr. Arch, of Maryland, confirms his statement, by observing the same distinction in his practice.

Taken in large doses, and the system kept for some time

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under its influence, it has afforded decided relief in Tic Douloreux; and in the most severe, and best marked case of spasmodic asthma we ever witnessed, the inspissated juice of Stramonium, brought to its proper consistence, by the spontaneous action of the atmosphere, was given in doses of a quarter of a grain every four hours, and speedily produced relief. It is also said to have been successfully administered in large doses for rabies, by the practitioners of India.

Professor Bigelow's remarks on its effects, when smoked, are so judicious, that we transcribe them from his valuable work:* "Within a few years, the thorn-apple has attracted much notice, both in Europe and in this country, as an efficacious palliative in asthma and some other affections of the lungs, when used by smoking, in the same manner as tobacco. The practice was first suggested by the employment of another species, the *D. ferox*, for similar complaints in the East Indies. An English gentleman having exhausted the stock with which he had been supplied of the oriental plant, was advised by Dr. Sims to have recourse to the common Stramonium as a substitute; and upon trial, experienced the same benefit as he had done from the former species. This instance of success led to further trials, and in a short time several publications appeared, containing cases of great relief, afforded by smoking this plant in the paroxysms of asthma. Many individuals of different ages, habits, and constitutions, had used it with the effect of producing immediate relief, and of terminating the paroxysm in a short time. The efficacy, however, of this medicine was called in question by Dr. Bree, who published in the Med. and Phys. Journal a letter, containing the result of a great number of unsuccessful trials of Stramonium, in asthmatic cases. It may be doubted whether any other physician has been so unfortunate in its use as Dr. Bree, since he affirms that not one case, of those under his care, was benefited by it. Certain it is, that in this country, (America) the thorn-apple is employed with very frequent success by asthmatic patients, and it would not be difficult to designate a dozen individuals in Boston and its vicinity,

* American Medical Botany, vol. i. part i. p. 23.

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who are in the habit of employing it, with unfailing relief, in the paroxysms of this distressing complaint. The cases, which it is fitted to relieve, are those of pure spasmodic asthma, in which it doubtless acts by its sedative and antispasmodic effects. In those depending upon effusion of serum in the lungs, or upon the presence of exciting causes in the first passages, or elsewhere, requiring to be removed; it must not be expected that remedies of this class can afford benefit. In several cases of plethoric and intemperate people, I have found it fail altogether, and venesection afterwards to give speedy relief." For the purpose of smoking, the leaf should be used instead of the root, as it is less fibrous, and possesses all the virtues of the plant.

Dr. Marcet published the result of his experience with Stramonium, and states that many kinds of diseases of a painful nature were more relieved by it, when taken internally, than by any other narcotic substance; and although it frequently excites nervous sensations that are disagreeable, and somewhat alarming to the patient, yet they did not always occur; and its effects on the bowels are rather relaxing, than astringent. Sometimes it rendered the pulse slower.

"Cataplasms of the fresh leaves bruised have been successfully applied to inflammatory tumours, and for discussing masses of indurated milk in the breasts of nurses; and an ointment made with the powdered leaves, allays the pain of hæmorrhoids."

Dose.—Of the inspissated juice, from half to two or three grains.

Formulæ—*Tinctura Stramonii.*

℞ Daturæ Stramonii seminum contus ℥ij.
Spiritûs Tenuioris ℥j.
Macera per dies quatuordecim, et cola.

Sir H. Halford recommends this preparation.

℞ Extracti Stramonii ʒj.
Saponis Duri ʒij.
Acaciæ Gummi Pulv. ϑj.
Glyrch. Pulv. ϑij.
Mucil. Tragacanth. q. s. ft. Massa in pilulas dividenda.—Dosis, una nocte maneque.

Off. Prep. Extract. Stramonii, *Lond.*

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Spigelia Marilandica.

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SPIGELIA MARILANDICA.

Maryland Worm-grass, or Carolina Pink.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. STELLATÆ, *Lin.* GENTIANÆ, *Juss.*

GEN. CHAR. *Corolla* funnel-shaped. *Capsules* twin, 2-celled, many seeded.

SPEC. CHAR. *Stem* four-sided, all the leaves opposite.

Syn.—Spigelia Marilandica, *Sp. Pl. Willd.* 1. 894.
Lonicera Marilandica spicis terminalibus, &c. *Sp. Pl.* 2. p. 249.
Periclymeni Virginiani flore coccineo, &c. *Raii. Dendr.* 32.
ENGLISH. *Indian Pink, Pink-root, Worm-grass, Perennial Worm-grass.*
FOREIGN. *Spigelie de Maryland,* Fr.; *Spigelia,* Ital.; *Nordamerikanische Spigelie,* Ger.; *Unsteetla,* of the Cherokee Indians.

OF this genus, which derives its name from Adrian Spigelius, a distinguished botanist, and Professor of Anatomy and Surgery at Padua, there are besides the Marilandica but four species; three natives of Brazil and Cayenne, the other of Jamaica. The present species is a native of all the southern states of America from Pennsylvania to Georgia and Louisiana; but will not bear the severity of a northern winter. It grows in rich dry soils, on the borders of woods, and flowers from May to July. It was introduced into this country in 1694.

Spigelia *Marilandica* is a low perennial plant, seldom more than eight or nine inches high in this country, but in its native soil sometimes attaining a height of nearly two feet. The root is horizontal, and consists of a great number of slender fibres,

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forming together a large bunch. When recent they are of a yellow colour, but become black on keeping. From the root proceed several erect, herbaceous, annual, smooth stems, four sided, and of a reddish purple colour. The leaves are opposite, sessile, ovato-acuminate, entire, and smooth. The stem is terminated by a spike of flowers, ranged on one side of the foot-stalk, and supported on short peduncles. Calyx short, cut into five acute segments; corolla funnel-shaped, of a deep crimson externally, and pink within; having the five segments of the border of a yellow colour, tinged with green; the stamens are five, shorter than the corolla, supporting oblong sagittate anthers; germen superior, ovate; style the length of the corolla, terminated by a long fringed stigma. The capsule is double, 2-celled, and contains many seeds.

The dissection which accompanies the plate, shews the corolla cut open; the position of the stamens and pistil; and the germen attached to the calyx. For the drawing we are indebted to Mr. R. Morris, F.L.S.*

Qualities and Chemical Properties.—Spigelia is a mucilaginous plant, with a mild and not very disagreeable taste. The infusion and decoction of the root and leaves afford a flocculent precipitate with alcohol. They are discoloured, but not precipitated by silicated potash. They have little sensibility to gelatin, although the tincture is made turbid by it. After the decoction was filtrated from the mucus, which had been coagulated by alcohol, it gave a precipitate with nitrate of mercury, but none with muriate of tin. Sulphate of iron caused a dark green precipitate from the decoction, and but little change in the tincture. No distinct evidence of resin presented itself. A substance, which may perhaps be considered a variety of extractive matter, appears to exist in this plant, as the tincture was affected in nearly the same manner by the salts of tin and mercury above mentioned, as the filtrated decoction. Water may be con-

* This gentleman, who is an estate agent and landscape gardener, in his leisure hours devotes himself to scientific pursuits, and is the author of the beautiful work, entitled "Flora Conspicua."

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sidered an adequate solvent, for the chief proximate principles of this plant.—(Bigelow.)

Medical Properties and Uses.—This plant was first used by the Cherokee Indians, as an anthelmintic. Drs. Lining, Garden, and Chalmers first introduced it to notice, and their subsequent experience tended to confirm its utility. The root possesses the greatest activity, and is given in doses of from grs. x. to ʒj; two or three times a day. If it proves purgative it is said to be most effective: and should it not, it must be conjoined with cathartics; which prevent the narcotic symptoms, such as stupor, headache, dilated pupil, flushings of the face, stiffness of the eyelids, that so frequently follow its administration. It is said to be most useful in *lumbrici*, and it is to its acrid narcotic principle, that Dr. Good, attributes its vermifuge powers; which it possesses in common with *S. Anthelmintica*, a native of Jamaica. Notwithstanding what has been advanced in its favour, we consider it an unnecessary appendage to our Materia Medica, for independently of its deleterious properties, its real anthelmintic ones are somewhat equivocal; and our pharmacopœia gives no direction for its administration. For the benefit, however, of those who wish to make trials of it, we subjoin the following form:—

℞ Spigeliæ Radicis Concisæ ʒß,
Sennæ Foliorum ʒij.
Aurantii Corticis Concisi.
Santonici Seminum Contus.
Fœniculi Seminum Contus. āā ʒj.
Aquæ Ferventis. ℥xij.

Macera per horas duas in vase leviter clauso, et cola. Dosis, cyathi vinos: singulos auroris, jejuno ventriculo.

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Æthusa Cynapium?

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ÆTHUSA CYNAPIUM.

Lesser Hemlock, or Fool's Parsley.

Class V. PENTANDRIA. *Order* II. DIGYNIA.

Nat. Ord. UMBELLATÆ, *Lin.* UMBELLIFERÆ, *Juss.*

GEN. CHAR. *Universal involucre* 0; *partial* 3-leaved, pendulous, placed on the outside. *Fruit* ovate, 5-ribbed.

SPEC. CHAR. "*Leaves* uniform; leaflets wedge-shaped, decurrent, with lanceolate segments." *Smith.*

Syn.—Aethusa Cynapium, *Lin. Sp. Pl.* 367. *Willd. v.* 1. 1446. *Flor. Brit.* 323.
Cicuta minor, petroselino similis. *Bauh. Pin.* 160.
Cicutaria apii folio, *Bauh. Hist. v.* 3. *p.* 2. 180. *f.*
Cicutaria tenuifolia, *Raii Syn.* 215. *Ger. Em.* 1063.
Cicuta minor, sive fatua, *Park.* 933.
Cynapium, *Riv. Pentap.* 75.
Coriandrum Cynapium, *Crantz. Austr.* 111. *Roth. Ger. v.* 1. 130. *v.* 2. p. 1. 346.
Cicutaria fatua, *Lob. Ic. v.* 2. 280. *f.*
Lesser Hemlock, resembling Parsley, *B. Pin.* Fool's Hemlock.
FOREIGN APPELLATIONS. *La petite Cigue*, Fr.; *Cicuta minore*, Ital.; *Kleiner Schirling*, Ger.

FOOL'S PARSLEY, so called from the deleterious property of the plant, and the resemblance it bears to parsley, for which it is sometimes unfortunately mistaken, is an annual plant, common in gardens and cultivated grounds in every part of Britain and Ireland; flowering from June to September. We observed it in profusion last summer, (1826) in the church-yards of St. George the Martyr, Borough; and St. Martin, in the Fields, London.

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From a root(*d*) which is slender and spindle-shaped, the stem rises to the height of a foot or more; it is erect, smooth, branched, striated or slightly grooved, hollow, and generally of a dark purple colour at the base, but not spotted. The lower leaves are tripinnate, smooth and shining; of a dark green colour, and supported on short sheathing foot-stalks; the upper ones are bi-pinnate; segments ovate-lanceolate, deeply cut, lobed, and more or less decurrent. The umbels are terminal, on longish peduncles, many rayed, the inner rays becoming gradually shorter; umbellules, small and spreading. The partial involucres consist of three long, linear, pendent leaves, which only half encompass the umbel on the outside. The flowers (*a*) are very small; the petals white, unequal, obcordate, and somewhat radiating; the stamens are five, simple, supporting roundish anthers. (*b*) The germen is beneath the flower, having two reflex styles and obtuse stigmata. The fruit(*c*) is ovate, roundish, deeply groved, crowned with the styles, and divisible into two parts, each containing a single seed.

This plant on account of its acrid effects when incautiously admitted into the stomach, derives its generical appellation *Æthusa*, from αἴθυσσω, a Greek word, which signifies to make warm; and the trivial name *Cynapium*, or Dog's parsley, was restored to the modern nomenclature from the writings of Rivinus; in which it ranks as a genus.

Qualities.—The seeds, when bruised, have a slight disagreeable odour, and a nauseous pungent taste. Alcohol extracts their active matter; but whether it be imparted to water, we have not been able to ascertain.

Distinctive Characters.—This being so abundant a weed in rich garden soils, is frequently mistaken for common parsley; and therefore, deserves to have its character and noxious qualities universally known and exposed. Although it bears a strong resemblance to the garden parsley, it exhibits differences in its botanical characters, by which it may at once be distinguished. The leaves of fool's parsley are finer, more acute, decurrent, and of a darker green; and instead of the peculiar parsley smell, have when bruised, a disagreeable odour. When the

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flower stem of the fool's parsley appears, the plant is readily distinguished from *all* other umbellate plants, by what is called its *beard*, three long, pendendulous leaves of the involucrum, (*e*) under the partial umbels. The flowers too of the fool's parsley are *white*, those of the garden parsley pale *yellow*. In order to prevent mistakes it has been recommended to cultivate the *curled* variety of the common parsley only; as it not only possesses the same virtues, but also makes a more elegant garnish.

From Dr. Buckhave, * we have gleaned the following interesting account; by which it will be seen, that it has also been inadvertently used for *Conium maculatum*.

"A patient, aged 40, being afflicted with carcinomatous ulcerations of the face and neck, Hemlock pills were prescribed; which she took without inconvenience for two months. But no change, for the better, being produced upon the disease, he prescribed the herb of the Hemlock; directing an ounce to be boiled in thirty-two ounces of water; and of the strained liquor, three ounces were ordered to be taken daily, in different portions, for four or five weeks. But, during that time, she frequently complained that the draughts excited tremors, vertigo, headache, cholic pains, vomiting, loss of strength and aversion to food. Suspecting that these might proceed from regimen, he directed strict attention to that particular; and advised her to continue the decoction. But being afterwards informed that symptoms still more alarming had taken place, particularly violent vomiting, he was led to examine the plant, and soon found a large proportion of the *æthusa*. After this, she was furnished with genuine Hemlock; formed a similar decoction of it; and took it in the same manner without inconvenience. Under the medicine, the symptoms of the disease gradually decreased, and at the end of eleven months, the ulcerations healed."

This author narrates, also, two or three cases of the same kind. From this plant, however, it is essentially distinguished, as well by the inferiority of its size and unspotted stalk, as by the partial *involucres*, already described.

Symptoms.—The subjoined cases more fully illustrate the symptoms, this violent poison produces.

"Two ladies of Castle Donnington, Leicestershire, partook of some sallad, wherein *æthusa cynapium* had been put by mistake, with common parsley, for which it had *grown* and *was gathered*. Symptoms of an alarming kind soon followed, indicative of the full operation of

* Acta Regiæ Societatis Medicæ Hauniensis, vol. i.

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that pernicious vegetable. They were, a troublesome nausea with occasional vomiting; accompanied with oppressive headache and giddiness; also a strong propensity to slumber, at the same time that *calm* repose was wholly prevented by frequent startings and excessive agitations. The mouth, throat, and stomach, were impressed with the sensation of pungent heat, attended with great difficulty in swallowing. Increased thirst prevailed, with total loss of appetite for every kind of solid aliment. The extremities felt benumbed and were affected with tremors; and all the vital and animal functions were performed with unusual inactivity." The ladies recovered, but no allusion is made to the treatment that was pursued.*

"A boy six years of age, having eaten this plant at four in the afternoon, which he took for parsley, began immediately to utter cries of anguish, and complained of cramps in the stomach, while he was going from the country to his father's house, the whole of his body became excessively swelled, and assumed a livid appearance: his breathing became every moment more difficult, and short; and he died towards midnight. Another child, aged four, was also poisoned by the same plant, and although the contents of his stomach were rejected, he went out of his senses; talked extravagantly; but eventually recovered, by suitable medical assistance."—(Vicat.)

MORBID APPEARANCES.—Riviere relates, p. 255, that a person died after having taken this plant. "His tongue was black; a brownish serosity was found in the stomach; the liver was hard, and of a yellow colour; the spleen livid; but the body was not at all emphysemitous."

TREATMENT.—Emetics and purgatives should be administered, and as soon as the poison is evacuated, vinegar, and the citric, or other vegetable acids. Should stupor remain, apply cold effusions to the head, or bleed from the jugular vein. Apply friction to the body, and sinapisms to the feet. And during the cure, give small doses of sulphate of magnesia, dissolved in almond emulsion.

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* *See* a communication of Mr. Stevenson, of Kegworth, in the Medical and Physical Journal, Vol. XIV. p. 425.

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Hyoscyamus niger.

London, Published by John Churchill, Leicester Square, March 1827

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HYOSCYAMUS NIGER.

Common Henbane.

Class V. PENTANDRIA.—*Ord.* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLANEÆ, *Juss.*

GEN. CHAR. *Corolla,* funnel-shaped, the lobes obtuse. *Stigma* capitate. *Capsule,* covered with a lid, 2-celled.

SPEC. CHAR. *Leaves* sinuate, amplexicaul; *flowers* sessile.

Syn.—Hyoscyamus niger, *Lin. Sp. Pl.* 257. *Willd. v.* 1. 1010. *Fl. Brit.* 254. *Ger. Em.* 353. *f.*
Hyoscyamus vulgaris, *Raii. Syn.* 274. 1.
Hyoscyamus, *Hall. Hist. v.* 1. 254. *Brunf. Herb. v.* 1. 224. *Camer. Epit.* 807. *f.*
Hyoscyamus niger vel vulgaris, *Park. theatr.* 363.
Hyoscyamus lethalis, *Salisb. Prodr.* 131.
Hyoscyamus flavus, *Fuch. Hist.* 833. *f.*
FOREIGN.—*Jusquiame, ou hanebane potelée.* Fr.; *Belsenkraut,* Ger.; *Giusquiamo, Fava porcina,* Ital.; *Beleno, Veleno,* Span.; *Miemendro, Velheno, Vosciamo,* Portug.; *Honsebane,* Dan.; *Bolmort, Honsable,* Swed.; *Belena,* Russ.; *Sickran,* Arab.

COMMON HENBANE is an annual plant, growing naturally in many parts of our island, on waste grounds, and particularly on dry calcareous soils, on the sea coast of Essex and Kent; flowering in July.

The figure was drawn from a specimen found on Barnes Common; the only locality in the immediate vicinity of the metropolis, with which we are acquainted: the London herb-

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shops being chiefly supplied with it from Birch, near Colchester, and the Isle of Thanet, where it grows in great abundance. Mr. Greville, in his *Flora Edinensis*, on the authority of Mr. Neill, mentions it as occurring at Lochend, and on the south-east end of the debris of Salisbury Craigs.

The root is fusiform, long, thick, wrinkled, brown externally, and white within. The stem rises to the height of two feet; is erect, branched, woody, cylindrical, somewhat viscid, and covered with a hairy down. The leaves surrounding the stalk at their base, stand irregularly, or in alternate order; are large, clammy like the stalks, soft, woolly, pointed at the ends, very deeply sinuated at the edges, and of a glaucous green colour. The flowers are numerous, mostly sessile, of a straw-yellow colour, reticulated with dark purple veins; and either emerge singly from the alæ of the leaves, or form long drooping, unilateral spikes, at the extremity of the stem and branches. A variety without these veins is mentioned by Sir J. E. Smith, as having been found by the Rev. J. Forby, at Fincham, in Norfolk. The corolla is monopetalous, funnel-shaped, and divided into five obtuse segments. The calyx is pitcher-shaped, 5-cleft, and remains till the fruit be ripe. The filaments are inserted into the tube of the corolla, downy at the base, subulated, inclined inwards, and supporting heart-shaped anthers of a deep purple colour. The germen is roundish; style filiform, the length of the stamens, with a blunt round stigma. The capsule is ovate, filling the body of the calyx; bilocular, and opening transversely by a convex lid. It contains numerous, small, obovate, unequal brown seeds. The whole plant is covered with soft unctuous hairs. Fig. (*a*) represents the calyx; (*b*) the corolla, with the stamens and anthers; (*c*) the germen and style; (*d*) the capsule, with its lid.

The systematic name, *Hyoscyamus*, is of Greek origin, and is derived from ὑς, *sus*, and κύαμος, *faba*, a bean, HOGS-BEAN: because the exterior of the capsule has some resemblance to the shape of a bean, and the herb may be eaten by swine with impunity: whereas, to most other animals it proves poisonous. Ælian, however, relates that if this plant be devoured by swine,

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its effects are extremely prejudicial, occasioning convulsions, and even death. The trivial name *niger* (black), is expressive of the colour of the seeds, and serves to distinguish the present species from another kind of European Henbane with white seeds, and which for that reason is termed *Hyoscyamus albus*. The English name Henbane, seems to be derived from the effects of the seeds on fowls: *Bana*, being the Saxon word for murdering, slaying; thus the plant is the destroyer, or *bane* of hens. Mathiolus, in his Commentaries on Dioscorides, asserts that he was a witness to the effects of the seeds on children, and that birds, especially of the gallinaceous tribe, and fishes, die soon after eating them.

Qualities and Chemical Properties.—The whole plant has a strong fœtid narcotic smell, and abounds in a clammy juice of a similar odour. The root has a sweetish taste, which has caused it to be sometimes mistaken for that of the parsnip. Exsciccation is said to destroy these sensible qualities. "Its virtues are completely extracted by diluted alcohol. The watery infusion is of a very pale yellow colour, and insipid; and has the narcotic odour of the plant. It is not altered by the acids; the alkalies change the colour to a deep greenish yellow, which on the addition of an acid, disappears, and a brownish flocculent precipitate is produced. Copious white precipitates are produced by solution of subacetate of lead; and black ones, by nitrate of silver. Sulphate of iron, strikes with it a pale olive colour, and a dark precipitate is slowly formed."* Nitrate of mercury, also, produces a large precipitate; and the watery, and alcoholic solutions, do not disturb each other. Brandes has succeeded in extracting from the *seeds*, an alkaline principle, termed *hyoscyamine*, on which its active principle depends; its vapour being exceedingly prejudicial.†

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* Thompson.

† The seeds of *hyoscyamus niger* furnished to M. Brandes:—Fixed oil, readily soluble in spirit of wine 19.6; fixed oil, *not* readily soluble in spirit of wine 4.6; fatty substance analogous to cetine 1 4; malate of *hyoscyamine*, with malates of lime and magnesia, and an ammoniacal salt 6.3; incrystallizable sugar, a trace; gum 1.2; bassorine 2.4; fecula 1.5; woody fibre 26; phyteumacolle 3.4; soluble

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SYMPTOMS AND MORBID APPEARANCES.—Henbane, when administered in too large a dose, becomes a very dangerous poison. The effects produced by this plant, besides madness, are symptoms of intoxication, stupor, remarkable dilatation of the pupil, apoplexy, and convulsions; terminating in death. On dissection, the internal surface of the stomach is often found inflamed, and covered with gangrenous spots; the brain, also exhibits appearances, denoting high excitement.

Wepfer relates, that several monks made a repast on the roots of wild endive, among which were mixed by mistake two roots of henbane. In a few hours, some experienced vertigo; others a burning of the tongue, lips, and throat. Severe pains were also felt in the iliac region, and in all the joints. The intellectual faculties and organs of vision were perverted, and they gave themselves up to actions that were mad and ridiculous. They however recovered. In other cases a haggard countenance, dilatation of the pupils, difficult breathings, small and intermittent pulse, loss of speech, trismus, and temporary loss of intellect, have been the principal symptoms: while the extremities have been observed to be cold, and nearly paralyzed. A clyster, prepared from a decoction of henbane, caused a numbness and loss of motion of the upper and lower extremities, propensity to sleep, and difficulty of hearing.—Orfila, vol. II. p. 135 to 139. Foderè, vol. IV. p. 25.

"Dr. Patouillat, of Toucy, in France, saw nine persons who were poisoned with this root. Some were speechless and convulsed; others, occasionally, howled. In all, there was a protrusion of the eyes, contortion of the mouth, and delirium. Emetics relieved them, but their sight was for some days affected, and all objects appeared red, like scarlet."—Phil. Transact. vol. XL. p. 446.

The vapours of this plant were lately used by Hufeland in nervous affections. When exposed to this, even though precautious were taken to prevent the fumes from reaching the face, profuse perspirations ensued; with a sense of fulness in the head, and sometimes tremors, difficult respiration, and vertigo. Boerhave, also, experienced a trembling, and drunkenness while preparing a plaster, into the composition of which henbane entered. On animals, the juice and decoction of the root produced lethargic effects, but very seldom any giddiness or convulsions. When applied to the cellular texture, death ensued sooner; and vomiting occurred in one case: but generally the comatose symptoms were all that were observed. No inflammation was noticed in the stomach; the lungs were occasionally livid, and

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albumen 0.8; hard albumen 3.7; malate sulphate? and phosphate of potass 0.4; malate of lime 0.4; malate of magnesia 0.2; phosphates of lime and magnesia 2.4; water 24.1; excess 1.4 The ashes contained—carbonate, phosphate, sulphate? and hydrochlorate of potass; carbonate, and much phosphate of lime; much silica, manganese, and iron, and a very little copper.—Majendie's Formulary, p. 221.

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black blood was observed in the heart. Horses, goats, sheep, and swine, are said to eat it with impunity.

Hyoscyamus *aureus, physaloides,* and *scopolia,* are all deemed to be poisonous: and the following account is illustrative of the effects of H. *albus.*

"In April 1792, a large quantity was carried, by mistake, on board the French corvette *La Sardine,* which the sailors had gathered in one of the isles of Sapienzi, in the Morea. A part of it was put into the ship's copper, and the remainder into those, of some, of the subaltern officers. At four o'clock they all dined. In a short time, vertigo, vomiting, convulsions, gripes, and purging were generally experienced: and when Dr. Picard, the surgeon, came on board, he observed the gunner making a thousand grimaces and contortions. By keeping up the evacuations, most of them recovered; but those in whom there were none, remained for some time in a sickly condition."—Foderè, vol. IV. p. 23.

Treatment.—When Henbane is taken in an over dose, the effects are decidedly *narcotic;* and the same treatment is required, that we have recommended for *Atropa Belladonna.*

Medical Properties and Uses.—Henbane is one of our most valuable narcotics. The principal use which is made of it, is as a substitute for opium, when the latter disagrees, or is contraindicated by particular symptoms. It appears to be free from the constipating qualities of opium, especially if exhibited in large doses. Like digitalis and other narcotics, it often operates as a diuretic, and sometimes increases the cuticular discharge. In moderate doses, it acts as a powerful sedative, moderating excess of irritability; induces sleep, relieves chronic, and anomalous pains of the abdominal viscera, and is employed, with singular advantage, in irritative conditions of the kidneys, bladder, and urethra. Conjoined with purgatives, it does not impede their operation, and is, therefore, frequently prescribed with colocynth, and other drastic purgatives, where the bowels are irritable, and where it is necessary to increase their secretions. It is occasionally substituted for Belladonna, to cause dilatation of the pupil, prior to the operation for cataract; and it acts much more mildly. Although the seeds are less active, than other parts of the plant, and may be eaten in small quantities, without danger, their efficacy in relieving

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toothache when smoked, is generally acknowledged. Colica pictonum, hysteria, rheumatism, gout, palpitation of the heart, and chordee, are complaints for which it is often recommended: while the bruised leaves, have been advantageously used, as an external application, in the form of cataplasm, to scrofulous and cancerous ulcers, hæmorrhoids, and other painful diseases. But as in some cases it produces unpleasant symptoms; and sleep, which is laborious and unrefreshing, "it is generally resorted to more as a secondary medicine, than one which we may confidently apply at first, with reliance on its anodyne effects."

Off. Prep. Extractum Hyoscyami, *L. E. D.*

Dose. Five grains, to one scruple.

Tinctura Hyoscyami, *L. E. D.*

Dose. From twenty drops, to one drachm.

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Phellandrium aquaticum.

London, Published by John Marshall, Leicester Square, March, 1802.

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PHELLANDRIUM AQUATICUM.

Water Hemlock.

Class V. PENTANDRIA.—*Order* II. DIGYNIA.

Nat. Ord. UMBELLATÆ, *Lin.* UMBELLIFERÆ, *Juss.*

GEN. CHAR. *Involucre* o. *Flowers* of the disk smallest. *Fruit* ovate, smooth, crowned with the calyx and styles.

SPEC. CHAR. Segments of the *leaves* divaricated.

Syn.—Phellandrium Aquaticum, *Lin. Sp. Pl.* 366. *Willd. v.* 1. 1444. *Smith. Fl. Brit.* 321.
Phellandrium sive Cicutaria quorundam, *Raii. Syn.* 215, 1. *Bauh. J.* iii. *b.* 183.
Cicutaria palustris, *Ger. Em.* 1063. 2. *Raii. Hist.* 452. *Lob. Ic. v.* 1. 735.
Cicutaria palustris tennifolia, *Park.* 933.
Onanthe Phellandrium, *Lamarck. Fl. Fr.* 432.
Ligusticum Phellandrium, *Crantz. Austr.* 200.

THIS is an indigenous biennial plant, found growing in ditches and rivers; but not very common. We found it in great abundance in a pond at Kentish town, and in a deep ditch at Battersea, associated with the elegant *Butomus umbellatus*, *Lythrus salicaria*, and other aquatics. It flowers in July and August.

From a jointed root, the fibres of which grow in whorls, proceeds an erect, hollow, smooth, furrowed stem, of a yellowish green colour, and very thick at the lower part, with diverging branches, to the height of three or four feet. The leaves are large, spreading, smooth, dark shining green, tripinnate, and

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finely divided. The umbels are many rayed, axillary, opposite to the leaves. The flowers are small, white, formed into umbels, which have a partial involucrum, composed of many lanceolate small leaves; petals equal, obcordate; calyx 5-leaved. The filaments are five, longer than the corolla, and supporting roundish anthers. The germen is inferior, oblong, with two styles, and obtuse stigmata. The fruit is ovate, smooth, striated, and splits into two small seeds. The genus *Phellandrium* is nearly allied to *Oenanthe;* but different, in wanting a general involuce, and in having all the florets fertile, and not radiate. Fig. (*a*) represents the corolla, stamens, &c.; (*b*) a back view of the corolla, shewing the calyx; (*c*) the germen and styles, with the stamens and anthers; (*d*) the fruit.

The origin of the generical name *Phellandrium,* is involved in considerable obscurity. It is usually derived from φηλλος, cork, and ανηρ, a man; but as this etymology throws no light on the meaning of the term, we agree with a modern author, in supposing it to be derived from φηλεω, to deceive, in allusion to the noxious qualities of the herb, and its resemblance to some that are wholesome.

QUALITIES.—The whole plant has a heavy disagreeable smell; the seeds, (which are the parts that have been used in medicine,) have an aromatic odour, and a moderately pungent taste, resembling those of fennel. Distilled with water, they yield an essential oil, of a pale yellow colour, and a strong penetrating smell. One pound affords an ounce of watery, and nearly double this quantity of spirituous extract, of which more than three drachms consists of resin.

MEDICAL PROPERTIES AND USES.—The seeds of *Phellandrium Aquaticum* are carminative, narcotic, and diuretic. They have been much recommended on the continent in pulmonary consumption; and many cases are recorded, in which the disease, if not cured, was evidently relieved by them.

Dr. Selig narrates a case of a young unmarried woman, whose mother died consumptive. She laboured under cough, dyspnœa, a purulent expectoration, pain in the chest, and fever in the afternoon.

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It ought to be remarked, that during four weeks, in which Dr. Selig exhibited various pectoral and febrifuge medicines, the cough, fever, and pains in the chest were much abated; but the expectoration continued, and was offensive by its smell. He then ordered the water-hemlock, with nitre and gum arabic; and strongly urged his patient to permit a seton to be inserted between the shoulders; which she would not submit to. In fourteen days, she recovered astonishingly. There were, now, scarcely any remains of fever, and the cough and purulent expectoration were greatly diminished. Her strength and spirits returned. But as the doctor still insisted on the propriety of introducing a seton, and as her terrors at the remedy were great, she abandoned him and his medicine. She then began to grow worse, and in a few months after, again sent for him, but the disease was too far advanced, to leave any room for hope; and she died some months afterwards.

The second case is more interesting. It is that of a youth of thirteen years of age, who had all the symptoms of phthisis pulmonalis; and who was completely cured by means of the *semina phellandrii aquat:* which he took for two months, without interruption.

There is a note added to this case by Dr. Hufeland, the editor of the journal from which this account has been translated, where he says, that he also derived great benefit from the same remedy.

Dr. Hargens, of Kiel, states, that it relieves consumptive symptoms; and as it is a native of our own country, we wish to direct the attention of British practitioners to it, as a remedy worthy of trial; and one, that can be readily obtained. Should any one be disposed to make use of it, it ought to be borne in mind, that those of the *umbelliferous* plants of active properties, possess them in an increasing ratio, with their moist or shady situation.

The seeds also were employed by the ancients in calculous complaints; and have been highly extolled by Heister, Ernsling, and others among the moderns, as possessing valuable diuretic, antiseptic, and expectorant powers. When taken in large

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doses, they appear to produce, though not very actively, the ordinary effects of the narcotic poisons; and on this account we have thought proper to figure the plant in our work. Wepfer has related several cases of poisoning by it; but it appears probable that the *Cicuta virosa*, was mistaken for it. Linnæus asserts that the horses in Sweden are seized with palsy by feeding on the Water Hemlock; but that its noxious qualities are attributable to a small coleoptereous insect, *Curculio Paraplecticus*, (*Lixus Paraplecticus*, of Fabricius and Latreille,) which is found in its stalks. The effects respecting this insect are now admitted to be fabulous.

Dose.—From gr. xv. to ʒß and upwards.

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Pl. 12.

Helleborus niger.

Clark, del. et sculp.

London. Published, by John [illegible] Square March 1827.

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HELLEBORUS NIGER.

Black Hellebore.

Class XIII. POLYANDRIA.—*Order* VI. POLYGYNIA.

Nat. Ord. MULTISILIQUÆ, *Lin.* RANUNCULACEÆ, *Juss.*

GEN. CHAR. *Calyx* o. *Petals* five or more. *Nectaries* bilabiate, tubular. *Capsules* many-seeded, nearly erect.

SPEC. CHAR. *Leaves* pedate. *Flower stalks* radical, one or two flowered. *Bracteas* ovate.

Syn.—Helleborus niger, *Lin. Sp. Pl.* 783.
Helleborus niger, flore roseo, *Bauh. Pin.* 186.
Helleborus niger verus, *Ger. Em.* 976. *Park. Theatr.* 212. *Raii. Hist.* 697.
Elleborus niger legitimus, *Clus. Hist.* i. 274.
Helleborus grandiflorus, *Salisb.* in *Lin. Trans.* viii. 304.
FOREIGN. *Hellebore*, Fr.; *Elleboro negro*, Ital.; *Helleboro negro*, Sp.; *Schwartze Niesswurzel*, Ger.; *Khurbuc usivud*, Arab.

BLACK HELLEBORE, so called from the dark colour of the root, is a perennial plant, growing spontaneously on the rocky mountains of Austria, Carniolia, Italy, and Greece, and cultivated in our gardens as an ornamental plant, flowering in mild seasons from December till March, whence it has obtained the name of Christmas rose. The date of its introduction is unknown, but it appears to have been cultivated in Britain by Gerarde as early as 1596. In the older editions of our Dispensatories, it is termed "Melampodium,"* and was formerly

* Melampodium appellatur, quoniam caprarum pastor, Melampus nomine, furentes Prœti filias eo primus purgasse, et sanasse creditur. Folia ei viridia Platani

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supposed to be the true ἑλλεβοϛοϛ μελαϛ of Dioscorides, till it was discovered to be a distinct species by Tournefort, growing plentifully on Mount Athos, Delphi, and the Bythnian Olympus, as well as on the hills near Thessalonia: and by Dr. Sibthorp, in the neighbourhood of Constantinople. Anticyra, now Aspro-spizzia, a city in Phocis, situated near Mount Oeta, was famous, among the ancients, for the Hellebore which it produced; it was of the best quality, and reckoned a specific for many diseases, particularly for insanity; hence arose the proverb, "Naviget Anticyram," send the madman a voyage to Anticyra. Thus the Roman poet:—

> Danda est ellebori multo pars maxima avaris:
> Nescio an Anticyram ratio illis destinet omnem.
> Hor. Sat. iii. lib. ii.

"By far the largest portion of Hellebore is to be administered to the covetous: I know not whether reason does not consign all Anticyra for their use."

The root, which is the part used in medicine, consists of numerous depending fibres, issuing from a rough transverse knotty head, externally of a blackish colour, internally white. The leaves are large, composed of five, six, or more leaflets of a deep green colour, and spring directly from the root on long cylindrical petioles, smooth, and dotted with red; the leaflets are ovato-lanceolate, smooth, shining, and coriaceous, with the distal, half of each slightly serrated. The flower-stalk is a scape, six or eight inches long, erect, round, variegated with red, and supporting one or two flowers. The bracteas, or floral leaves, are ovate, and indented at the edges. The corolla consists of five large, roundish, concave petals, at first white, or of a pale rose colour, deepening by age, and finally becoming green, after the impregnation of the seed. The nectaries are tubular, two lipped. The filaments are numerous, capillary,

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similia, sed minora, foliis sphondelii proxima, pluribus divisuris scissa, nigriora, et subaspera; caulis brevis; flores candidi purpurascentes, figura racemosi; semen intus Cnici. . . . Radices subsunt tenues, nigræ, velut e capitulo quodam cepæ simili dependentes, quarum usus est etiam. In asperis, editioribus, sitientibusque locis enascitur. . . . Eligi debet carnosum, plenum cui tenuis medulla sit, acre denique gustu, fervens-que.—*Dioscorid.* l. 4. c. 151. p. 297.

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supporting yellow anthers. The germens, about six or eight in number, become pods, containing many black, shining seeds.

ADULTERATIONS.—It appears that the merchants of Frankfort and of Hamburgh, frequently substitute the roots of the Aconitum *neomontanum*, Adonis *vernalis*, Helleborus *viridis*, Trollius *europæus*, Actæa *spicata*, and some other plants, for those of Helleborus niger; but these may in general be distinguished by their paler colour.

QUALITIES AND CHEMICAL PROPERTIES.—The fibres of the roots, which are the parts employed, are of the size of a small quill; corrugated; of a colour approaching to black on the outside; and of a yellowish white within. Their *odour* is disagreeable. Both the virtues and properties of the root are impaired by keeping:* but when fresh, their taste is penetrating, and though neither bitter, nor very hot, it leaves a lasting impression in the mouth; and has a remarkable effect on the tongue; as observed long ago by Grew, in his work on Tastes. "The root being chewed, and for some time retained upon the tongue, after a few minutes it seemeth to be benumbed, and affected with a kind of paralytic stupor; or as when it hath been a little burnt with eating or supping any thing too hot." M. M. Feneulle and Capron have lately analyzed the root, but were unable to discover any alkali in its active principle, similar to that which is yielded by the White Hellebore. The following are its constituents, viz. a volatile oil; a fatty matter, a resin, wax, a volatile acid, a bitter principle, mucus, alumina, gallate of potash, acidulous gallate of lime, and a salt, with an ammoniacal base. Alcohol appears to extract its virtues most efficiently; from which it would appear, that they depend principally on its resinous part. A watery extract, also, possesses both its purgative and diuretic qualities: and its irritating properties are considerably lessened by boiling.

SYMPTOMS AND MORBID APPEARANCES.—That it is a violent *acrid poison*, the subjoined account will prove.

"Six grains of powdered hellebore were sprinkled over a wound,

* VIRTUS: *rec.* venenata, rubefaciens, resicans; *recenter siccatæ:* emetica, purgans, emmenagoga, antiphthiziaca, sternutatoria; *diu conservatæ:* vix purgans, alterans, diuretica.—*Bergius.* tom. ii. p. 496.

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made in the interior of the thigh of a small young dog. There were no visible symptoms at the expiration of eight hours. The next day, twenty hours after the operation, the animal was lying down upon his side, and in a state of great dejection; he was quite sensible to external impressions: he could be moved like an inert mass of matter, and could not by any means keep himself on his legs. He died three hours after. No sensible lesion was perceived in the digestive canal, or in the lungs."—(Orfila.)

"Two persons took a decoction of this root in cider, and M. Ferary communicated the particulars to the *Societé Medicale d'Emulation* at Paris. Three quarters of an hour after taking it, alarming symptoms were developed, without exciting suspicion of the real cause. One of the men, therefore, took another dose, when vomiting, delirium, horrible contortions, accompanied with immediate coldness supervened, and death at last ensued. On dissection, sixteen hours afterwards, the appearances in each were found precisely similar, except that in the one who took the largest quantity they were more strongly marked. The lungs were gorged with blood. The mucous membrane of the stomach was considerably inflamed, of a blackish brown colour, and reduced almost to a gangrenous state. The œsophagus and intestines were natural." *

In some, the stomach and intestines, but particularly the *rectum*, are highly inflamed: a circumstance which will be observed in those who have died from taking the *Colchicum Autumnale;* that in its poisonous effects, very much resembles black hellebore. Slight congestions have also been noticed in the lungs, and the bladder has been observed to be red, and thickened.

"A man, who appeared to be nearly fifty years old, being in the hospital on account of melancholia, was about to depart, when he took some extract of black hellebore, by which he was considerably purged. In the beginning of the night, at the seventh or eighth hour after taking it, he was attacked with vomitings and pains of the abdomen, which were allayed by warm broth. About the fifth hour of the night, those affections returned, and again appeared to be relieved. He lay down an hour afterwards, having vomited two or three spoonsful of a greenish matter. So quietly did he rest afterwards, that none of the patients, in the nearest beds, heard him; but at the eighth hour, they were attracted to his bedside by a peculiar noise from his mouth; and found him dead. He had taken about half a drachm of the extract; a quantity which had been administered to others with impunity. He had, however, neglected to drink copiously of whey; a precaution, it was customary to recommend.

"Thirty hours after death the body was inspected. DISSECTION. The limbs were neither rigid, nor contracted. In some places, even externally, the stomach and intestines were inflamed: and the

* Beck. Med. Jurisp. p. 514.

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intestinum ileum was contracted in some parts, and dilated in others. Internally, the stomach, with the adjacent parts of the œsophagus, was partially inflamed: the intestines were likewise inflamed, but inflammation was not violent in either part. The spleen was somewhat larger than natural, and so flabby, that the inner substance was almost fluid. The bile contained in the gall bladder, was of a pale green colour. A little bloody fluid escaped from the cranium, when it was cut into. There was but little blood in the sinuses of the dura mater, or in the larger vessels, which ramify through the pia mater. The whole cerebrum was soft."*

TREATMENT.—According to the experiments of Orfila, the poisonous qualities of Hellebore, are absorbed and act much more rapidly when applied to the cellular texture of the thigh, than when introduced into the stomach. Hellebore, he says, occasions a remarkable stupefaction, which will be combated by an infusion of coffee and camphor in small doses, frequently repeated: and if these medicines are thrown up a short time after their injestion, they must be used in injections, and by frictions. Inflammation he recommends to be combated by emollient drinks: and emetics are only to be resorted to, when vomiting has not been copiously excited by the poison: and this last advice applies to all other poisons of the *acrid* class. Were we called to a patient suffering from the effects of Hellebore, we should either produce, or encourage vomiting. We should then give coffee, in which gum acaciæ might be dissolved. After this, small doses of laudanum might be administered, conjoined with epsom salts and almond emulsion: and the latter might form the common drink for an indefinite period. To relieve delirium, or inflammation of the stomach, bleeding generally, or by leeches, might be advantageously employed; and the general antiphlogistic treatment persisted in.

MEDICAL PROPERTIES AND USES.—Before the grand discoveries, which chemistry has made on the attributes of metallic substances, the most violent vegetable medicines were boldly administered, and this plant has been highly extolled by Avicenna, Gesner, Klein, Milman, and many others, in mania, dropsy, cutaneous diseases, and worms. As an emmenagogue, it is occasionally given with success; but this property, as well

* Morgagni. l. ix. 15.

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as its hydragogue virtues, are reasonably supposed to depend on its drastic cathartic effects: effects which it sometimes exerts so violently, as to be seldom prescribed; and were it expunged from the list of our Materia Medica, we could easily fill up the vacancy by indigenous plants of greater utility. The slender fibres of the root only are used. To produce its full effect as a purgative, the dose should be from ten grains to a scruple; but it is very seldom prescribed in substance. The most common form is that of decoction, made with two drachms of the root to a pint of water. Of this an ounce or more is given every three or four hours. The extract, which is made by evaporating the decoction to a due consistence, is the basis of Bacher's celebrated hydragogue pills, composed of extract of black hellebore, myrrh, and powdered carduus benedictus, in the proportion of half a drachm of the first two ingredients, and five grains of the last, beat into a mass, and made into pills each weighing a single grain. These pills, which formerly obtained a place in our Pharmacopœias, in doses from one to six, three or four times a day, were strongly recommended on the continent in dropsical cases, and were supposed to unite an evacuant and tonic power. Hence they were supposed particularly adapted to those cases where general debility and relaxation of the system occurs. Under the hands of their inventor, they acquired so great reputation, that after a trial in the military hospitals of Paris, the receipt was purchased by the French king, and published by authority. But like many other nostrums, since their composition became known, Bacher's pill, has by no means supported the reputation which it had when kept a secret.

OFFIC. PREP. Tinct. Hellebori Nigri, *L. E. D. olim*, Tinctura Melampodii.

SYN. *Teinture d'Ellebore noir*, Fr.; *Tinctura d'Elleboro*, Ital.

DOSE. From m. xxx to ʒj. every six hours, in a mucilaginous vehicle.

Extractum Hellebori Nigri. *E. D.*

DOSE. Three grains, to one scruple.

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Lactuca virosa.

W. Clark fc

London Published by John Churchill Leicester Square, March, 1827.

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LACTUCA VIROSA.

Strong-scented Lettuce.

Class XIX. SYNGENESIA.—*Order* I. POLYGAMIA ÆQUALIS.

Nat. Ord. COMPOSITÆ SEMIFLOSCULOSÆ, *Lin.*
CICHORACEÆ, *Juss.*

GEN. CHAR. *Receptacle* naked. *Calyx* imbricated, cylindrical; its scales membranaceous at their margins. *Pappus* simple, stipitate.

SPEC. CHAR. *Leaves* horizontal, toothed; the keel prickly.

Syn.—Lactuca virosa, *Lin. Sp. Pl.* 1119. *Willd.* iii. 1523. *Fl. Brit.* 819.
Lactuca sylvestris major odore opii, *Raii Syn.* 161. 1. *Ger. Em.* 309. 1.
Lactuca sylvestris endiviæ foliis, odore viroso, *Park. Theatr.* 813.
Lactuca agrestis, *Cord. fol.* 157. *p.* 2. *Lob. adv.* 89.
FOREIGN. *Laitue vireuse*, Fr.; *Lattuca Salvatica*, Ital.

THIS is a biennial plant; a native of Britain, and other parts of Europe; occurring chiefly in dry, warm hedges, and waste grounds, where the soil is calcareous. We perceived it in the hedges about Kilburn, on the road to Harrow; and also at Kingston-bottom, near Coombe Wood, Surry.

The stem is somewhat woody, rising from two to six feet high; it is erect, slender, very slightly prickly below, smooth above, round, panicled, and thinly cloathed with leaves. The leaves are alternate, glabrous, toothed, undivided at the base, and spreading; the cauline ones amplexicaul, sinuate, sometimes lobed, with the midrib armed with short spines on the

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under side. The bracteas, or floral leaves, are cordate, and pointed. The flowers, which expand only in bright sunny mornings, are small, compound, of a sulphur-yellow colour, and appear in terminating panicles, in August and September. The calyx is nearly cylindrical, and composed of numerous pointed scales, with membranous edges. The corolla is compound, imbricated, and uniform; the florets equal, monopetalous, ligulate, truncated, and four or five-toothed. There are five very short capillary filaments, having the anthers united into a cylindrical tube. The germen is nearly ovate, supporting a slender style, the length of the stamens, with two reflexed stigmata. The seeds are solitary, ovate, compressed, striated, brownish black, and furnished with a pedicellate scabrous pappus.

Fig. (*a*) represents a floret with the five united anthers, somewhat magnified; (*b*) a single seed with the pappus.

The systematic name, *Lactuca*, from *lac*, milk, is obviously expressive of the milky juice with which the plants of this genus generally abound. *Virosa*, the trivial name, poisonous, alludes, no doubt, to its supposed deleterious properties.

Qualities and Chemical Properties.—The leaves and stem of this plant abound with a milky juice, which may be collected in great abundance, just as it is beginning to flower: in the same manner, as that recommended by Mr. Jeston, of Henley-upon-Thames, for English opium.—(Vide p. 17, vol. 41, of the Trans. of the Society of Arts.) Sir J. Hill recommends it to be practised in the month of April, which is certainly too early: and Dr. Todd Thompson says that the plant must be gathered, and the *juice expressed:* a plan we consider to be objectionable, as the other fluids must necessarily be mixed with the white juice: which is of a strong fœtid smell; of a bitter and acrid taste; and possesses the activity of the plant. Morphium has been discovered to exist in the juice, but it is difficult to separate it from the mucus of the extract.

Symptoms and Morbid Appearances.—Two drachms of the watery extract, were applied, by Orfila, to the cellular texture of the back of a dog. At the end of two days, the

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animal, who had only been slightly drowsy, had some vertigoes, and died seventy hours after the operation. The ventricles of the brain contained no fluid; the exterior veins of that organ were distended and injected with black blood: the lungs presented a few patches of a brown red colour; their texture was somewhat more dense than natural.

In a dog, who had been poisoned by three drachms of the extract, introduced in the stomach, *dissection* of the body threw no light on the cause of his death: and in a rabbit which died a short time after we had administered half an ounce of expressed juice, in a fluid state, we could discover no morbid appearances whatever.

TREATMENT.—The effects of this plant, when taken in an over dose, being decidedly *narcotic;* we again refer to *Art.* No. I. for the treatment that is required.

MEDICAL PROPERTIES AND USES.—We consider this as one of the most valuable of our native plants: the inspissated juice is a mild sedative, and if administered in proper doses, constitutes an excellent substitute for opium; when its diuretic effects, which are somewhat powerful, are not contra-indicated. It generally proves somewhat laxative; promotes urine and gentle sweats, and allays thirst. By the Germans its virtues are highly extolled, and they administer it in palpitations of the heart, and in intermittent fever. Dr. Collin relates twenty-four cases of dropsy; twenty-three of which were cured by taking it, in doses of eighteen grains, to three drachms, every twenty-fours. In a dropsical case, that lately came under our care, it certainly produced a salutary action on the kidneys, and procured quiet sleep. We have also ascertained, to our own satisfaction, that it possesses another most important virtue, viz. *that of reducing the velocity of the pulse;* at the same time that it appears to increase its tone; and so remarkably efficient did it act on one patient, that three small doses of the tincture, decreased the arterial action in the wrist from one hundred and twenty pulsations in the minute, to less than seventy; accompanied by intermissions. Unlike Digitalis, its effects on the brain are scarcely felt; and as the

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subject is one of considerable interest, and of no little consequence, we trust that our professional brethren will endeavour to elucidate our remarks, by further investigations.

Off. Prep. Succus spissatus Lactucæ virosæ. *Ed.*

Dose. Six grains, gradually increased.

Tinctura Lactucæ Virosæ.

℞ Lactucæ Virosæ Foliorum exiccatorum uncias quatuor;
Spiritûs tenuioris octarios duos;
Macera per dies quatuor-decim, et cola.

Dose. Twenty drops, gradually increased to one drachm.

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Conium maculatum.

G. Cornett del.

W. Lake

London, Published by John Churchill, Leicester Square, April, 1827.

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CONIUM MACULATUM.

Common, Greater, or Spotted Hemlock.

Class V. PENTANDRIA.—*Ord.* II. DIGYNIA.

Nat. Ord. UMBELLATÆ, *Lin.* UMBELLIFERÆ, *Juss.*

GEN. CHAR. *Involucella* 3-leaved, all on one side. *Petals* cordate. *Fruit* nearly globular, 5-ribbed and furrowed; the *ribs* crenulate.

SPEC. CHAR. *Stem* much branched, smooth, and spotted. *Leaves* tripinnate.

Syn.—Cicuta, *Raii. Syn.* 215, 1; *Ger. Em.* 1061, 1; *Camer. Epit.* 839. f.
Cicuta vulgaris major, *Park. Theatr.* 933.
Conium, n. 766. *Hall. Hist.* v. 1. 337.
Conium major, *Bauh. Pin.* 160. *Moris. v.* 3. 290.
Coriandrum Cicuta, *Crantz. Austr. fasc.* 3. 100.
Coriandrum maculatum, *Roth. Germ. v.* 1. 130. v. 2. p. 1. 348.
Conium maculatum, *Lin. Sp. Pl.* 349; *Willd.* v. 1. 1395; *Fl. Brit.* 302; *Hook. Fl. Scot.* 88.
FOREIGN.—*Grand Cigue*, Fr.; *Cicuta Maggiore*, Ital.; *Conio manchado*, Ital.; *Schierling*, Ger.

COMMON SPOTTED HEMLOCK, or as it is termed in our Dispensatories, *Conium*, is a tall umbelliferous biennial plant, indigenous to Britain; growing wild in almost every climate, and with us, is found by road-sides, in hedges and waste places; flowering in June, and July.

The root is fusiform, resembling that of the common garden parsnip; of a yellowish-white colour externally, and white and fleshy within. The stem rises from two to five feet high, is herbaceous, erect, round, hollow, much branched, polished, and

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variegated with spots and streaks of a redish purple. The leaves much resemble parsley or chervil, a circumstance which has sometimes given rise to fatal accidents. The lower ones are large, spreading, and repeatedly compound; the upper ones are bipinnate; the whole stand on long furrowed footstalks; the leaflets are ovate, sharply serrate, of a deep shining green colour on the upper side, and a whitish green underneath. The umbels are terminal, compound, and many rayed. The general involucrum consists of several short, unequal, lanceolate leaves; the partial ones generally of three leaflets, which only half encompass the umbel. The flowers are small, white, and very numerous; the petals white, the outer ones somewhat irregular, inflexed, and heart-shaped. The stamens are capillary, with roundish anthers. The germen is situated under the flower, supporting two reflexed styles, and obtuse stigmata. The fruit is ovate, with ten prominent acute ribs; the seeds half-ovate, each with five ribs, and notched on either side.—Fig. (*a*) represents the root with part of the stem; (*b*) a perfect flower magnified; (*c*) the pistil; (*d*) the fruit also magnified.

Hemlock is not unfrequently mistaken by herb-gatherers, and even by medical men, ignorant of Botany, for other plants of the same tribe—most commonly for Wild Cicely, *Chærophyllum sylvestre*, which it very much resembles. By a little attention to the characters, the plants may readily be distinguished. Thus in *C. sylvestre* the stem is furrowed, without spots, and hairy; in Hemlock it is smooth, and irregularly studded with purplish spots. The latter too has a broadish reflexed *involucrum*, consisting of from three to seven leaves, under both the universal and partial umbels; petals bifid; and seeds that are striated and beautifully notched on the edges; whilst in the former the partial involucre only is present, the petals are entire, and the seeds are not striated. The characters which discriminate *Cicuta* from the Lesser Hemlock, or Fool's Parsley, have been already fully pointed out under the article *Æthusa*.

A plant, bearing the name of κωνειον, was celebrated amongst the ancients, as a violent poison; and those who were condemned to death by the tribunal of Areopagus, were poisoned

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by the juice of one of the species of hemlock. Theramanes, one of the thirty, and Phocion, suffered publicly from its effects: and Socrates, whose disciple he had been, and who was the only senator who ventured to appear in his defence, not only immortalized himself by his talents, wisdom, and virtues; but by his own death, has conferred a notoriety on *Cicuta*, which time will never efface. The account of his death, as narrated in the *Phædon* of Plato, we subjoin :* and while it affects the mind by its tender touches, and by a consideration of the blind and delusive impulses, which can stimulate a popular faction to a fatal deed, the consequences of which were unseen, till the glory of the Athenians was disappearing, it appears that the symptoms which the poison produced, do not exactly correspond to those we look for, from the Conium maculatum, of Europe:

* "And Crito hearing this, gave the sign to the boy who stood near. And the boy departing, after some time returned, bringing with him the man, who was to administer the poison, who brought it ready bruised in a cup. And Socrates beholding the man, said, 'Good friend, come hither, you are experienced in these affairs,—What is to be done?' 'Nothing,' replied the man, 'only when you have drank the poison, you are to walk about until a heaviness takes place in your legs. Then lie down, this is all you have to do.' At the same time he presented him the cup. Socrates received it from him with great calmness, without fear or change of countenance, and regarding the man with his usual stern aspect, he asked, 'What say you of this potion? Is it lawful to sprinkle any portion of it on the earth as a libation, or not?' 'We only bruise,' said the man, 'as much as is barely sufficient for the purpose.' 'I understand you,' said Socrates, 'but it is certainly lawful and proper to pray the gods that my departure from hence may be prosperous and happy, which I indeed beseech them to grant.' So saying, he carried the cup to his mouth, and drank it with great promptness and facility.

"Thus far most of us had been able to refrain from weeping. But when we saw that he was drinking, and actually had drunk the poison, we could no longer restrain our tears. And from me they broke forth with such violence, that I covered my face and deplored my wretchedness. I did not weep for his fate, so much as for the loss of a friend and benefactor, which I was about to sustain. But Crito, unable to restrain his tears, was compelled to rise. And Apollodorus, who had been incessantly weeping, now broke forth into loud lamentations, which infected all who were present except Socrates. But, he observing us, exclaimed, 'What is it you do, my excellent friends? I have sent away the women that they might not betray such weakness. I have heard that it is our duty to die cheerfully, and with expressions of joy and praise. Be silent therefore, and let your fortitude be seen.' At this address we blushed, and suppressed our tears. But Socrates, after walking about, now told us that his legs were beginning to grow heavy, and immediately laid down, for so he had been ordered. At the same time the man who had given him the poison, examined his feet and legs, touching them at intervals. At length he pressed violently upon his foot, and asked if he felt it. To which Socrates replied, that he did not. The man then pressed his legs and so on, shewing us that he was becoming cold and stiff. And Socrates feeling of himself, assured us, that when the effects had descended to his heart, he should then be gone. And now the middle of his body growing cold, he threw aside his clothes and spoke for the last time. 'Crito, we owe the sacrifice of a cock to Æsculapius. Discharge this, and neglect it not.' 'It shall be done,' said Crito; 'have you any thing else to say?' He made no reply, but a moment after moved, and his eyes became fixed. And Crito seeing this, closed his eyelids and mouth."

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but we must remember that the historian is not a physician from whom to expect a scientific or modern description; "that the idiosyncrasies of different individuals render them variously susceptible of the action of hemlock;" and that all narcotic plants exert very different effects when administered to the natives of warm climates, than when they are given either to the weak, or the robust, of our northern soil.

The description of the plant given by Dioscorides, only proves it to have been one of the *umbelliferæ*, his character of which, may be applied to many species: and the references to it by Latin writers, amongst whom are Persius,* Virgil, Lucretius,† and Pliny, under the name of *Cicuta*, reflect no light on the subject.

Ælian states that when the Cean old men had become useless to the state, and tired of the infirmities of life, they invited each other to a banquet, and having crowned themselves as in celebration of a joyous festival, drank the poisonous juice, and terminated their existences together. Linnæus, Lamarck, and others believed the Conium maculatum to be the plant used by the Grecians: others suppose that the fatal draught was compounded from different herbs; and Haller considers it to have been derived from the *Cicuta virosa*, a poisonous aquatic, which in its operation is much more powerful and violent than the common hemlock. To pursue the question is more interesting than useful; but it appears that the juice recently expressed, was the form of administering the poison; and, that, the draught taken by Phocion was large enough to cost twelve *drachmæ*: a fact, the knowledge of which defies our award to the particular species of hemlock, and gives fresh energy to our suppositions.

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* Rem populi tractas? *(Barbatum hæc crede Magistrum, Dicere, Sorbitio tollit, quem dira Cicutæ.)*
Quo fretus? dic hoc, magne Pupille *Pericli.*
Satira Quarta.
. . . Quo deinde, insane, ruis? Quo?
Quid Tibi vis? calido sub pectore, mascula Bilis
Intumuit, quam non extinxerit Urna *Cicutæ.*
Satira Quinta. v. 142.

† Quippè videre licet pinguescere sæpè cicutâ
Barbigeras pecudes, homini quæ est acre venenum.
Liber Quintius. v. 897.

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Qualities and Chemical Properties.—The leaves of hemlock, when fresh and bruised, have a strong taste and an odour resembling the urine of a cat: when dried they are not so disagreeable, but still possess a heavy narcotic smell. Their taste is slightly bitter and nauseous. Dr. Bigelow found, that if the green leaves are distilled, the water which collects in the receiver has an insupportably nauseous taste, while that remaining in the retort, is comparatively insipid.

The acrimonious principle only is lost in drying: the narcotic remaining if the operation be carefully performed. Schrader, from a thousand grains of the plant, obtained, *extractive* 27.3; *gummy extract* 35.2; *resin* 1.5; *albumen* 3.1; *green fæcula* 8: he, also, detected various earthy and alkaline salts; which are found to vary according to the soil in which the plant grows. The volatile portion which has been obtained in water distilled from the leaves, did not exhibit any essential oil, and effected no change in the colour of litmus. It was not altered by sulphate of iron, nor acetate of lead. The virtues of Conium, are extracted by alcohol, and sulphuric æther; to the latter it communicates a very deep green colour; and Dr. Thompson discovered that when the tincture is evaporated on the surface of water, a rich dark green resin remains, in which the narcotic principle of the plant appears to reside; in doses of half a grain it produces headache, and slight vertigo; and has received the name of *conein*. Respecting the qualities of the root, the most discordant sentiments prevail; some avowing that it is highly deleterious, while others aver, that it may be eaten with impunity. It is well known that the root of Colchium *autumnale*, the most active poison at one season of the year, is perfectly inert at others: these effects are of course regulated by the time of flowering, and depend on other processes in the growth of the plant which nature is producing—circumstances, which probably apply to the roots of hemlock.

Störck,* without adverting to the season of the year in which

* Radix recens dum in taleolas discinditur, fundit lac, quod gustu amarum et acre est. Hujus lactis unam alteramve guttulam linguæ apice delibavi. Mox lingua facta est rigida, intumuit, valde doluit, et ego nec verbum loqui poteram. (Störck. *De Cicuta*. F. 9.)

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he obtained it, states that the sliced root yielded a bitter and acrid juice, a drop or two of which applied to his tongue, rendered it painful, rigid, and so much swelled, that he could not speak. This account we find it difficult to reconcile with our own experience, and that of many others;* for having gathered a considerable quantity of the root in March, we ascertained, contrary to our expectation, that its odour was not so strong as that of the few leaves which were springing from it; and after chewing a drachm, we could discover no acrid power, and the taste, instead of being bitter, was sweet, and much resembled the flavour of a raw parsnip. Mr. Alchorne asserted, that he had tasted the root in every season of the year, and from most parts of our island, without finding any material difference, and that he had been informed both from Berlin and Vienna, that the roots are there no more violent than in England. A Mr. Lane,† also, eat a considerable part of the root without inconvenience, and after that, he had some boiled, and found them as agreeable as carrots, which they resembled somewhat in taste. He has eaten them at all seasons, and from different places; some were more pungent than others, but not in a degree worthy of notice. According to Linnæus, sheep eat the leaves, while horses and cows refuse them. He also states that goats refuse them, which we believe to be incorrect. The thrush, according to Ray, eat the seeds; an extract from which is said to be more powerful than that from the leaves.

Symptoms.—An overdose of hemlock produces all the symptoms of narcotic poisons, such as sickness, vertigo, delirium, dilatation of the pupils, great anxiety, stupor, and convulsions. We are indebted to *Orfila* for the following account.

"On the 23rd of *April*, at one o'clock, a small dog was made to swallow an ounce and a half of the *fresh root of Conium maculatum*: the œsophagus was tied. Forty-eight hours after he had experienced nothing. On the 25th, at noon, he was only somewhat dejected."

M. *Agasson* speaks of a man who had taken hemlock, and who had

* Orfila, in his concluding remarks, and after many experiments, states, "that the fresh leaves of hemlock furnish at a certain period, a juice which possesses energetic poisonous properties; and that that which is obtained from the roots at the same time, possesses little activity."

† Curtis' *Flora Londinensis*.

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all the superior parts of the body affected by convulsions, whilst the inferior were paralysed. A furious delirium has sometimes been observed in other persons: thus according to Vicat, p. 274, an Italian, who cultivated vines in his own country, found amongst them a plant of this kind, which he took for a parsnip; he ate part of *the root* for his supper, gave the rest to his wife: after which they went to bed. In the middle of the night, they awoke completely mad, and began running here and there without a light over the whole house, in a fit of madness and fury; they struck themselves so rudely against the wall, that they were bruised all over, and their faces particularly, and eyebrows, appeared swelled and bloody: suitable medicines were administered to them, and they were restored to health.

"In the year 1822, a grenadier in garrison at Torrequemada, in Spain, partook of some broth into which hemlock had been put, and died in three hours. DISSECTION. The stomach was half filled with crude broth; there were round the pylorus, some red spots; the liver was very voluminous; there was no alteration in the intestines; the *vena cava* and the heart were emptied of blood; the pectoral cavity was narrow; the left lobe of the lungs was sound, but the right one was entirely destroyed by a preceding suppuration. On opening the cranium, there flowed out a sufficient quantity of blood to fill two ordinary sized chamber utensils: the vessels of the brain were extremely gorged with blood."—*Journal de Medicine*, tom. xxviii. p. 107.

TREATMENT.—See *Art. Belladonna*, No. 1.

MEDICAL PROPERTIES AND USES.—The use of hemlock was principally confined to external applications, till it was introduced by Störck, as an internal remedy for scirrhus, cancer, and a host too numerous to mention, of other chronic affections. The encomiums he bestowed upon it, led to its universal adoption; but time and experience have proved, that however benignly it occasionally acts, when first administered, we are not warranted in attributing virtues to it, of so conspicuous and valuable a nature. That in cancerous ulcerations, the pain sometimes abates, and the discharges assume a less acrid character, will be readily admitted; but these effects are only temporary; and conium is now merely viewed as a valuable palliative. On painful sores of a scrofulous kind; on ulcers which remain in many irritable constitutions after the use of mercury; on some malignant sores, especially such as are met with on the tongue; on indurations of the breasts, and of the testes, it frequently exerts a most salutary power. It also allays morbid irritability of the system, and is given with marked advantage in pertussis or hooping cough, and in those pulmonary diseases which fre-

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quently follow inflammation of the thoracic cavity. Chronic rheumatism also, and anomalous pains of the muscles, are often benefited by its use.

Rosenstein in Sweden; President Fisher and Prof. Jackson, in America, have found its relaxing effect to facilitate the passage of biliary calculi: and Bigelow confirms their accounts of its very beneficial efficacy in jaundice. Bergius extolls it in impotency. Fothergill, in our own country, and Chaussier and Dumeril in France, have found it successful in tic doloreux. Dr. Jackson, who has published several cases in the New England Journal, vol. II. in which perfect relief was afforded to this disease, recommends us "to begin with a single grain of the extract, and to increase to five grains for the second or third dose: afterwards to add five grains to every dose till a full effect is felt on the system." It has also been of great use in some cases of hemicrania, which are not regularly intermittent: and the bruised plant, or decoctions of it, are sometimes applied externally to ulcerated surfaces, and to painful tumefactions.

To avoid disappointment from its effects, which so frequently occurs, the plant must be gathered in June, just as it commences flowering. The leaflets should then be plucked from the footstalks, which are to be thrown away, and the former, after being carefully dried in the sun, or in a stove, very moderately heated, may be preserved in sealed paper, and firmly pressed into a box, from which both air and light are to be excluded if possible. The powder, the best manner of administering it, may be kept for years in an opaque closely stopped phial. The extract can scarcely ever be relied on, from the carelessness observed in its manufacture: we therefore recommend our readers to practise Mr. Houlton's plan, which consists in submitting the expressed juice to the atmosphere, in shallow vessels; whereby spontaneous evaporation is produced; and a preparation obtained, containing all the virtues of the recent plant. A full detail of this method will appear shortly in the "Transactions of the Society of Arts."

Off. Prep. Extr. Conii. *L. E. D.*

Dose.—From gr. iij to ʒj.

In powder, gr. ij. gradually increased to ʒj, or more.

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Citrus Aurantium?

W. Clark. del. et sculp.

London. Published by Wm. Curtis, Leicester Square, April 1791.

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CITRUS AURANTIUM.

The Seville Orange-tree.

Class XVIII. POLYADELPHIA.—*Ord.* III. ICOSANDRIA.

Nat. Ord. POMACEÆ, *Lin.* AURANTIÆ, *Juss.*

GEN. CHAR. *Calyx* 5-cleft. *Petals* five, oblong. *Anthers* 20, the filaments united into different bundles. *Berry* 9-celled.

SPEC. CHAR. *Petioles* winged. *Leaves* acuminate. *Stem* arboreus.

Syn.—Malus Aurantia major, *Bauh. Pin.* p. 436.
Malus Aurantia vulgaris, *Park. Theatr.* 1508.
Malus Aurantia, *Gerard. Emac.* p. 1463; *Raii. Hist.* p. 1658.
Citria mala, sive Mala medica, *Camer. Epit.* 118.
Aurantium vulgare, *Ferrar. Hesp.* p. 377. *t.* 369.
Citrus Aurantium, *Sp. Pl. Willd.* iii. 1100; *Hort. Kew.* iii. 101.
FOREIGN.—*Oranges*, Fr.; *Arancio*, Ital.; *Naranja*, Sp.; *Pomeranzin*, Ger.

THE Orange-tree is a native of India, naturalized in the south of Europe, as well as in the West India islands, and the southern parts of North America. In this country, it is chiefly prized as a green-house plant. Sir Francis Carew is said to have introduced orange trees into England, in the reign of Elizabeth; but whether he brought plants, or raised them from seeds brought home by Sir Walter Raleigh, has not been satisfactorily ascertained.* In our hot-houses the trees produce their pure white

* The Orange-tree has also been supposed to be a native of the Hesperides, or Canary islands, and its fruit to be the golden apples which the daughters of Hesperus caused to be so strictly guarded by a dragon; and under this idea, Veutenat has changed the name of the natural order to which it belongs, from *Aurantia* to *Hesperidæ*.

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and very fragrant flowers in June; and after the first season of flowering, blossoms and fruit appear together on the same plant; the latter remaining a year, or fifteen months, on the tree before it be ripe.

The Orange is a middle sized ever-green tree,* much branched, and covered with a greenish brown bark. In some trees the branches are furnished with short, solitary spines. The leaves are alternate, of a shining green colour, entire, nearly elliptical, pointed, and furnished with winged foot-stalks, by which they are distinguished from those of the lemon. The flowers are large, very fragrant, and arise from the smaller branches, upon simple and branched peduncles. The calyx is saucer-shaped, and divided into five small pointed segments. The petals are five, oblong, white, concave, and beset with minute glands. The stamens are about twenty, united at their base into several sets, and support yellow anthers placed vertically. The germen is superior, roundish, and has a cylindrical style, with a globular stigma. The fruit is a globular berry, of a redish-yellow colour externally, and internally divided into nine cells, filled with a mucilaginous pulp, and each containing from two to four cartilaginous seeds. The rind is composed of two distinct coats; the outer, thin and glandular; the inner thick, whitish, and spongy.—Fig. (*a*) represents the pistil; (*b*) the stamens.

Of the Orange there are two principal varieties; 1. The sweet orange, including the China orange, the Portugal orange, and similar kinds; and 2. The bitter orange, including the Seville orange, which alone is directed in the Pharmacopœias; and other varieties, called *bigardes* by the French. The species

* Virgil not only refers to the general character of the Orange tree, but proves that he was acquainted with the virtues of its juice (which it possesses in common with other vegetable acids) as an antidote to narcotic poisons.

"Medîa fert tristes succos tardumque saporem
Felicis mali: quo non præsentius ullum
(Pocula si quando sævæ infecere novercæ,
Miscueruntque herbas, et non innoxia verba)
Auxilium venit, ac membris agit atra venena.
Ipse ingens arbos, faciemque simillima lauro:
Et, si non alium latè jactaret odorem,
Laurus erat: folia haud ullis labentia ventis:
Flos apprimà tenax: animas et olentia Medi
Ora fovent illæ, et senibus medicantur anhelis."
Georg. lib. 2. v. 126.

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of the genus *Citrus*, which contains not only the Orange, but the shaddock, citron, and lime, are best distinguished, according to Miller, by the petiole, or leaf-stalk; in the orange and the shaddock, this is winged; in the lemon, citron, and lime, which are considered varieties belonging to one species, it is naked. The form and colour of the fruit also differs; thus in the orange and shaddock it is almost spherical, and of a yellowish red colour; in the lime it is spherical, but of a pale yellow; while the lemon is oblong, with a nipple-like protuberance at the end; the citron is also oblong, with a very thick rind.

QUALITIES.—The juice of the Seville orange is of a sour taste, combined with a sweetness and bitterness; and contains citric acid, though not in so great a proportion as that of the lemon. The outer rind, or cortical part, is of a grateful aromatic odour, and possesses a warm bitter taste; both of which depend on an essential oil, residing in distinct vesicles; from which it can be either expressed or distilled. Both the bitter and aromatic constituents are extracted by water and alcohol: and from the flowers, may be distilled a grateful perfume, known under the name of "Orange flower water." The unripe fruit, or berries of the orange tree, commonly called *Curaçoa oranges*, are more bitter and aromatic, and when dried, retain their flavour: infused in brandy, they furnish us with the Dutch liquor, termed Curaçoa.* An oil distilled from the flowers, is imported from Italy, under the name of *oleum* vel *essentia neroli*.

MEDICAL PROPERTIES AND USES.—The juice of Seville orange is sometimes recommended as a refrigerant: but is neither so grateful, nor so plentiful, as that of the lemon. The rind, which should be thin, free from the white part, and from mouldiness, is a very grateful stomachic bitter; and is, therefore, frequently combined with other tonics; especially with cinchona; to which it is a most useful adjuvant. The confection of oranges, and cinchona powder, made into an electuary with the syrup of orange peel, is an excellent form of medicine

* Dr. Kitchener's receipt for making this agreeable *liqueur*, is as follows: to a pint of *rectified spirits*, add two drachms and a half of *sweet oil of orange peel*, shake the mixture, and let it stand till the following day; then add one pint of *clarified syrup*, and filter.

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for ague; as the taste is by no means disagreeable, and the stomach is seldom affected by the bark. The *infusum aurantii compositum* of the London Pharmacopœia, is an elegant vehicle for small doses of neutral salts; for bitter tinctures; ammonia; magnesia; &c.: and combinations of this kind are frequently prescribed, with advantage, in gout and dyspepsia. The flowers and leaves, in does of ʒß to ʒj, were formerly recommended as a remedy for epileptic and convulsive disorders, but experience has not confirmed the virtues attributed to them.

The China orange contains a large quantity of sacharine matter, and mucilage united to an agreeable acid; hence it is much employed as a wholesome, cooling, and antiseptic article of food for the sick, particularly in febrile, inflammatory, and scorbutic affections. Eaten, however, in too large a quantity, the orange is liable to produce great disorder of the stomach and bowels; cholic, diarrhœa, and cholera; and, like other subacid fruits, is hurtful in calculous complaints, diabetes, and generally in all those diseases arising from, or connected with, an imperfect assimilation in the primæ viæ.

"The dried unripe fruit *(Aurantium curassaventium)* is employed as an internal remedy in the same cases as the rind of the ripe orange. It is, however, more commonly used as a mechanical irritant in issues; for which purpose the smaller fruit is selected, and generally made round and smooth in the turning lathe. It is preferred for this purpose on account of its odour only; for the heat and moisture of the part in which the orange lodged, swells it as much as the common pea; and, therefore, it requires to be renewed once in twenty-four hours."

Off. Prep.—Infusum Aurantii Compositum. *L.*

Dose.—From one to two ounces, three times a day.

Tinctura Aurantii. *L. D.*

Dose.—From one drachm, to half an ounce.

Syrupus Aurantii. *L. D.*

Confectio Aurantii. *L. E. D.*

Aqua Citri Aurantii. *Ed.*

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Olea europea ?

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OLEA EUROPÆA.

European Olive.

Class II. DIANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. SEPIARIÆ, *Lin.* JASMINEÆ, *Juss.*

GEN. CHAR. *Corolla* 4-cleft, with subovate segments. *Drupe* one-seeded.

SPEC. CHAR. *Leaves* lanceolate, entire, pale underneath. *Clusters* axillary, dense.

Syn.—Olea sativa, *Raii Hist.* 1541; *Park. Theatr.* 1439.
Olea europœa, *Lin. Sp. Pl.* 11; *Hort. Kew.* i. 12; *Sibthorp, Fl. Græca,* t. 3.
FOREIGN.—*Huile d'Olive,* Fr.; *Olio d'Ulive,* Ital.; *Aceite,* Span.; *Olivenöhl,* Ger.

THE Olive is an evergreen tree growing spontaneously upon a rocky soil, in the south of Europe and the north of Africa; and has been cultivated from time immemorial, and constitutes much of the riches of France, Spain, and Italy. It is only in favourable seasons, when protected in the same way as the myrtle, by a slight temporary screen of straw, or other materials, that it produces its flowers in this country; but its fruit never ripens. It has been conjectured by some that the Olive-tree came originally from Asia, as it is found in most parts of Palestine, and actually gave name to the celebrated mount near Jerusalem.

The Olive is a low tree, rising from twenty to thirty feet, and frequently sending forth two or three upright, much branched stems, from the same root, which are covered with a greyish

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bark. The leaves are opposite, two or three inches long, and about half an inch broad in the middle, nearly sessile, lanceolate, of a bright green colour, smooth on the upper surface, pale and hoary beneath. The flowers are produced in small clusters at the axillæ of the leaves, on short footstalks, and furnished with small, hoary, obtuse bracteas; the calyx is obtuse and four-cleft; the corolla is white, monopetallous, spreading, and divided into four ovate, obtuse segments. Each flower contains two stamens, which are shorter than the corolla, supporting large pale elliptical anthers, and a single slender, erect, style, rising from a roundish germen, and crowned with a bipartite stigma. The fruit is a smooth oval plum or *drupe*, of a violet colour when ripe, having a nauseous bitter taste, but abounding in a bland oil, and enclosing an ovate, oblong, rugose nut or stone.—Fig. (*a*) is a perfect flower magnified; (*b*) the calyx, germen, and bipartite stigma; (*c*) the fruit; (*d*) the nut.

VARIETIES.—Of the Olive, there are several varieties, distinguished chiefly by the shape of the leaves, or by the size, colour, and form of the fruit. Several of these appear to have been known to the ancients; thus Virgil enumerate three varieties, Cato mentions eight, and Columella ten. The long leaved variety is chiefly cultivated in the south of France, on account of the fine oil which it affords; and the unripe fruit is also highly esteemed, when pickled. The broad-leaved is chiefly cultivated in Spain, where the trees grow to a much larger size than the Provence Olive, and yield a larger fruit; but the oil is said to be rank and disagreeable. Besides these there are several other varieties of the Olive tree; as the Warted or Cape Olive, the narrow-leaved, shining-leaved, box-leaved, African, Lucca, &c.

CULTURE.—In Gibbon's "*Decline and Fall*," chap. i. he quotes Pliny for the following fact: "The olive in the western world, followed the progress of peace, of which it was considered as the symbol. Two centuries after the formation of Rome, both Italy and Africa were strangers to that useful plant: it was naturalized in those countries, and at length carried into the heart of Spain and Gaul." "Its usefulness, the little culture

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it requires, and the otherwise barren situations, which it renders productive, quickly spread it over the western face of the Appenine. The suckers are removed from the parent tree at all seasons: but the best in spring and autumn, when the grounds are plowed, and sometimes, if the trees are thinly scattered, sown with corn and lupines. Otherwise, the earth is merely loosened round the roots, and, in some cases, manure is then laid round them.* The young olive plant bears at two years old; in six years it begins to repay the expense of cultivation, even if the ground is not otherwise cropped. After that period, in good years, the produce is the surest source of wealth to the farmer, and the tree rivals the oak in longevity; so that the common proverb here is, 'if you want to leave a lasting inheritance to your children's children, plant an olive.' There is an old olive tree near Gerecomio, which last year yielded 240 English quarts of oil: yet its trunk is quite hollow, and its empty shell seems to have barely enough hold in the ground to secure it against mountain storms."—Maria Graham's Three Months near Rome, p. 49.

To Dr. M. Good we are indebted for the following interesting remarks, on a singular mode of rearing olives. "It was remarked by an inhabitant of Marseilles, that when the olive-tree is produced naturally, it is by means of kernels carried into the woods, and sown there by birds which have swallowed the olives. By the act of digestion, he further observed, these olives are deprived of their natural oil, and the kernels have become permeable to the moisture of the earth; the dung of the bird at the same time serving for manure, and perhaps the soda which the dung contains, by combining with a portion of the oil that has escaped digestion, still further favouring germination. Following up this fact, a number of turkies were made by the experimenter to swallow ripe olives: the dung was collected containing the swallowed kernels; the whole was placed in a stratum of earth, and frequently watered. The kernels thus

* This does not agree with Virgil, who says, *Georg.* i. l. 507.

"No dressing they require and dread no wound."

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treated vegetated easily, and a number of young plants were procured. And in order to produce upon olives an effect similar to that experienced from the digestive power of the stomach, a quantity of them were afterwards macerated in an alkaline lixivium; they were then sown, and proved highly productive."

In Provence and Italy, the oil is drawn from the olives by presses or mills. The fruit is gathered when at its utmost maturity in November, when it begins to redden: being put under the mill, as soon as gathered, care is taken that the mill-stones are set at such a distance, that they do not crush the nut of the olive. The pulp covering the nut or stone, and containing the oil in its cells, being thus prepared, is put into bags made of rushes, and moderately pressed: and thus is obtained a considerable quantity of a greenish semi-transparent oil, which from its superior excellence is called virgin oil. The *marc* remaining after the first pressure is broken to pieces, is moistened with water and returned to the press, upon which there flows out a mixture of oil and water, which spontaneously separate by rest. This oil, though inferior to the former, is of good quality and fit for the table. The marc being again broken to pieces, well soaked in water, and fermented in large cisterns, is again submitted to the press, by which is obtained a third oil, that is valuable to the soap boiler, and other manufacturers. In Spain, the olives, instead of being gathered, are beaten down, so that the ripe and unripe ones are mixed, and to these are added, such as have fallen of themselves, and are therefore more or less decayed. All these are thrown together in a heap and soon ferment: the olives in this state are ground and pressed, and thus is produced, with little trouble, a large quantity of oil, of a rank disagreeable flavour. It is probable that the Spaniards derive their process from the Moors; for we find the same method described in Jackson's History of Morocco.

Qualities and Chemical Properties.—The best oil comes from Provence; but that which we have in this country is generally from Lucca and Florence. Samos has lately furnished us also. When recently drawn, virgin oil has a bland, almost mucilaginous taste, with a slight but agreeable flavour.

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It is unctuous to the touch; will not combine with water; is inflammable; and insoluble in alcohol. When exposed to the air, in an open vessel, a white fibrous albuminous substance is deposited, and the supernatant oil becomes clear, and of a dilute yellow colour: and when this oil is poured off into another vessel, a second deposition occurs, and the oil thus obtained, being put into clear glass bottles, may be kept for a convenient time, without undergoing any change. But if the oil be allowed to stand on the white matter, it becomes in a few weeks very rancid: nor can the common oil, even under proper management, be preserved in casks longer than a year or two. Its specific gravity is 9153: it boils at about 500° (Far.), and congeals at 36° or 38°. This disposition to freeze, renders it improper for lamps, especially in cold countries: but by previously exposing it in an open clear glass to the sun, it may be so far amended in this respect, as to continue fluid at 21°.

According to the recent observations of the late Dr. Clarke, of Cambridge, this oil crystallizes in rectangular four-sided prisms with square bases.

Adulterations.—It is frequently mixed with the oil of poppy seeds, and as the latter freezes less freely, *rancidity* is more easily produced. To discover the fraud, it is necessary to expose a sample to the freezing temperature, when the oil of olives will congeal, and that of the poppies remain fluid. Or if the *pernitrate of mercury* (made by dissolving six parts of the metal in 7.5 of nitric acid, of sp. grav. 1.36, at a common temperature) be mixed with olive oil, the mixture, if kept cold, will in the course of a few hours become solid, whereas, if it has any admixture of the poppy oil, it will not undergo such a change. If olive oil be contaminated with lead, which is sometimes employed to remove its rancidity, it may be detected by shaking one part of the suspected sample with three parts of water, impregnated with sulphuretted hydrogen, in a stopped phial.

Medical Properties and Uses.—The medical properties of olive oil are those of a demulcent, emolient, and laxative. In catarrh and other pulmonary affections, it has been used as a demulcent, in the form of emulsion: but the oil of almonds is

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more generally employed. It is occasionally recommended to be nternally administered for worms; and to lubricate, and sheath, the mucous membrane of the stomach, from the action of acrid poisons. From the experiments however of Dr. Pallas, repeated by Orfila, it appears that oil possesses the property of dissolving the active principle of *cantharides*, and augments the danger instead of preventing it.*

Olive oil enters into the composition of plasters, liniments, cerates, ointments, and enemas; and warmed, has been lately injected with success, in a case of constipated bowels, which had resisted the action of other medicines. It is applied externally to prevent the contagious influence of the plague. Mr. Jackson writes,

"I recommended Mr. Baldwin's method of olive oil applied according to his directions: several Jews, and some Mooselmin, were induced to try it; and I was afterwards visited by many, to whom I had recommended it, and had given them written directions in Arabic to apply it; and I do not know any instance of its failing when persevered in, even after the infection had manifested itself."

Mr. Jackson narrates many individual cases of its success, even after infectious symptoms had manifested themselves: and as his veracity cannot be impeached, his advice in the absence of better treatment, is entitled to attention, although the French physicians do not appear to rely much upon its virtue. The application should be, by long continued friction; and when successful, it is followed by profuse and general perspirations, that are said to afford immediate relief. In Malta the frictions with oil were found beneficial only in the first and last stages of the disease; but were of no advantage when it was at its height. The internal and external use of olive oil was formerly celebrated for the bite of the viper, rattlesnake, and other venomous serpents; though little reliance is now placed in it. The use of it, as a condiment, and in the arts, is too well known to require any comment.

Dose.—From ʒj to ℥j or more.

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* Journal de Pharmacie, Nov. 1822.

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Anagallis arvensis.

G. Spratt, del. W. Clark.

London Published by John Churchill, Leicester Square, April 1837.

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ANAGALLIS ARVENSIS.

Scarlet Pimpernel.

Class V. PENTANDRIA.—*Ord.* I. MONOGYNIA.

Nat. Ord. ROTACEÆ, *Lin.* LYSIMACHIÆ, *Juss.*

GEN. CHAR. *Corolla* wheel-shaped. *Stamens* hairy. *Capsule* 1-celled, bursting transversely all round.

SPEC. CHAR. *Leaves* ovate, sessile, dotted beneath. *Stems* procumbent. "*Corolla* minutely notched."

Syn.—Anagallis arvensis, *Lin. Sp. Pl.* 211; *Willd. v.* 1. 822, β; *Fl. Brit.* 230.
Anagallis flore phœniceo, *Raii. Syn.* 282, 1; *Park. Theatr.* 558; *Vaill. Paris.* 12.
Anagallis mas, *Ger. Em.* 617. *f*; *Fuch.* 20. *c.* 6; *Math. Valgr. v.* 1. 569. *f*; *Camer. Epit.* 394. *f.*
Anagallis, *n.* 625. *Hall. Hist. v.* 1. 276.
FOREIGN.—Αναγαλλις, *Dioscor.*; *Mouron*, Fr.; *Anagallide*, Ital.; *Gauchеil*, Ger.

THIS is a low, annual plant, with elegant scarlet flowers; and a procumbent stem; resembling common chickweed. It is indigenous to Britain; growing plentifully in cultivated grounds, particularly in rich garden soils; and flowering nearly the whole summer.

Pimpernel has a small fibrous root. The stem is square, much branched, smooth, slender, and clothed with small ovate, shining green leaves, which are either placed opposite, in pairs, without footstalks, or four together, and marked with purple spots underneath. The flower-stalks are angular, opposite, one flowered, bending downwards after flowering. The calyx is five-parted, acute, keeled, and permanent. The corolla is bright

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scarlet, violet coloured at the mouth, monopetallous, wheel-shaped, and divided into five ovate segments, the margins of which are slightly notched, or beset with minute glands. The stamens are five, purple, hairy, and supporting yellow heart-shaped anthers. The germen is globular; style purple, filiform, with a capitate stigma. The capsule is spherical, about the size of a pea, opening horizontally, and containing several small, brown, angular roughish seeds.—Fig. (*a*) is a single stamen; (*b*) the calyx, germen, and pistil; (*c*) the capsule.

The name *Anagallis*, retained from the old Greek and Roman authors, is probably deduced from the verb *αναγελαω*, to smile, because the plant is conspicuous for the beauty of its flowers. The flowers expand only about the middle of the day, and close at the approach of rain; and from this circumstance it is denominated the *shepherd's, or poor man's weather-glass*.

PROPERTIES AND USES.—It formerly held a place in our Pharmacopœias, and was considered to be detergent, vulnerary, and cephalic; and by the ancients it has been extolled for its virtues in gout, gravel, convulsions, and the plague. Gelin and others have asserted its success in hydrophobia; and had subsequent experience confirmed its powers in this disease, we should view it not merely as a pretty flower, but as the most useful of the vegetable kingdom. It is not now employed, but the following account from Orfila, will prove its poisonous effects.

"At eight in the morning, three drachms of the extract of Pimpernel, dissolved in an ounce and half of water, were introduced into the stomach of a robust dog. At half-past twelve he had a motion. At six in the evening he was dejected. At eleven sensibility appeared diminished. The next morning at six, he was lying upon the side, and appeared to be dead; he might be displaced like an inert mass of matter. He expired half an hour after. The mucous membrane of the stomach was slightly inflamed; the interior of the rectum was of a bright colour; the ventricles of the heart were distended with black coagulated blood; the lungs presented several livid spots, and their texture was preternaturally dense. Two drachms of the same extract, applied to the cellular texture of a dog's thigh, produced death in twelve hours: and the heart and lungs presented the same appearances as in the other."

Birds, of the passerine kind, are said to feed on the seeds with avidity.

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Solanum Dulcamara.

J. Sprat del. W. Clark sculp.

London. Published by John Churchill Leicester Square May 1837

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SOLANUM DULCAMARA.

Woody Nightshade, or Bitter-sweet.

Class V. PENTANDRIA.—*Ord.* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLANEÆ, *Juss.*

GEN. CHAR. *Corolla* wheel-shaped. *Anthers* opening with two pores at the apex. *Berry* 2-celled.

SPEC. CHAR. *Stem* flexible, without thorns. *Upper leaves* irregularly hastate. *Corymbs* drooping.

Syn.—Solanum lignosum, seu Dulcamara, *Raii. Syn.* 265, 1 ; *Park.* 350.
Amara dulcis, *Ger. Em.* 350. *f.*
Solanum, n. 575, *Hall. Hist. v.* 1. 248.
Dulcamara flexuosa, *Moench. Meth.* 514.
Vitis sylvestris, *Matth. Valgr. v.* 2. 619. *f.* ; *Camer. Epit.* 986. *f.*
Solanum Dulcamara, *Lin. Sp. Pl.* 264 ; *Willd. v.* 1. 1028 ; *Fl. Brit.* 256.
FOREIGN.—*Douce-amere*, Fr. ; *Dulcamara*, Ital. ; *Amaradulcis*, Sp. ; *Docamarga*, Port. ; *Bittersusstangel*, Ger. ; *Solotucha*, Russ.

WOODY NIGHTSHADE, called also Bitter-sweet, from the flavour of the herb when chewed, and in Cumberland, *Fellonwood*, is an indigenous shrub, very common in moist hedges, on the banks of ditches, and sometimes on old walls ; and flowering from June to September. It grows also in similar situations in most parts of Europe, occurring in Greece, and even as far north as Norway.

This well known species of Solanum, has several long, slender, roundish, winding stems, divided into a few erect, alternate branches, and rising, when supported, to the height of eight or ten feet. The stalks are covered with a greyish-green bark, on

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the lower part, but of a purple hue on the upper side, towards the ends of the branches. The root is small, creeping, and woody. The leaves are alternate, acute, mostly smooth, though sometimes hairy, soft, of a dull green colour, and supported on footstalks. They are cordate towards the bottom; more or less perfectly halbert-shaped at the top. The flowers are in very elegant, branched corymbs, opposite to the leaves, or terminal, drooping, divaricate, and alternately subdivided. The calyx is small, 5-cleft, with blunt segments: corolla wheel-shaped, consisting of five, reflected, equally divided, acute, violet coloured segments, with two round pale green, or whitish spots at the base, and large yellow anthers, longer than the filaments, united into a sort of cone. The germen is roundish, having a thread-shaped style projecting beyond the anthers. The berries, which ripen in autumn, are oval, scarlet, full of a nauseous juice, and contain several whitish, plano-convex seeds. A variety with white flowers is mentioned by Merret; and the leaves are sometimes found variegated.—Fig. (*a*) represents the stamens; (*b*) the pistil, germen, and calyx.

Qualities and Chemical Properties.—There is no smell in the dried herb; but that of the recent plant is heavy and disagreeable. The stalks, whether fresh or dried, have a slightly bitter taste, followed by a remarkable sweetness somewhat resembling liquorice, a peculiarity, which, no doubt suggested, the name *Glycipicros* and Dulcamara, of which the English trivial name is a just translation. The twigs, which for medicinal use, should be gathered in the autumn, are the only parts employed, though the roots are said to possess similar qualities. Water appears to be a perfect solvent of their active properties; but much boiling destroys their powers. The chief soluble portion seems to be a kind of mucous extractive, which is taken up both by water and alcohol, though most by the former: and the nitrate of mercury and muriate of tin, gave precipitate from both, though most from the water: an ounce of the twigs, according to Hartmann and Kuhn, when treated with alcohol, afforded two drachms and two scruples of extract. The same quantity treated with water, gave three drachms

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and thirty-five grains. Scheele discovered citric acid in this plant.

Symptoms.—Given in an overdose, a decoction of the twigs of Solanum Dulcamara, produces on man the ordinary symptoms of narcotic poisons. The crimson berries, which with those of the white and black Briony, (*Bryonia dioica*, and *Tamus communis*,) ornament our hedges at the approach of winter, are known to the peasantry by the name of "Poison berries." They have a disagreeable, bitter, nauseous taste; and the subjoined extract of a letter from our friend, Mr. Wheeler, Surgeon at Bayswater, attests, in a striking manner, their deleterious effects.

"On the 23rd of September, 1824, I was sent for, in great haste, to see two children belonging to Mr. Hebbut, of Kensington Gravel Pits. The elder was five years old, the younger three and a half. While playing in a field, close by their home, they were attracted at the sight of the beautiful red berries of the Dulcamara, and each eat a few. On their return home, about an hour after partaking of them, they were seized with the most excruciating pains in the whole course of the intestines; attended with great heat in the throat and chest. They could not bear the slightest pressure on the abdomen; and suffered much from nausea, thirst, and prostration of strength. It immediately occurred to my mind that these were the effects of some vegetable poison, and on questioning the mother, she ascertained where they had been, and that they had partaken of some berries. The pulsations at the wrist had now become exceedingly frequent, and the breathing painful and hurried. Hot water being at hand, I had them put into a bath, and administered a strong solution of sulphate of zinc, every five minutes; which soon dislodged the contents of the stomach; and I had the satisfaction to see several berries rejected, which were partially masticated, and appeared as though they were undergoing the process of digestion. After coming out of the bath, leeches were applied to the abdomen, and the bleeding was encouraged by poultices. I also ordered twelve grains of calomel for the elder, and ten to the younger, which were followed by a mixture of castor oil, manna, and laudanum, in proper proportions. Injections of beef broth were also frequently administered. In the evening, I found that the bowels had been freely acted on, and the evacuations were green, slimy, and extremely offensive. The tongue of each was red and dry.

"(Sept. 24th.) The tongues continued in the same condition. The bowels had been freely opened in the night. The breathing was but little improved. The bowels were not so much distended, nor was the pain produced by pressure, so great. The pulses were still hard and quick. I therefore ordered the calomel, castor oil, and leeches to be repeated.

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" (25th.) Pulses soft and reduced in velocity. A gentle moisture pervaded their skins; the breathing was better, and their bowels much relieved; the evacuations had been plentiful, and were not so green. Calomel and castor oil to be persisted in.

" (26th.) Are much better and free from pain, but extremely debilitated. Ordered them beef tea and mucilaginous drink. After this they gradually recovered, and on the 30th I took leave of them "

" In 1825, a child of Mr. Simmons, four years old, residing in Camden's Place, swallowed some of the berries. He was a fine, stout, healthy boy. The symptoms were exactly the same as those already described, but attended with violent vomiting and purging, with contraction of the abdominal muscles. *There was also a profuse secretion of saliva.* I took five ounces of blood from the arm; gave twelve grains of calomel in a little sugar, and ordered the oily mixture with four drops of laudanum in each dose. Leeches were also applied to the abdomen. In the evening, I found that the bowels had been freely acted on, and the breathing was much improved. I continued my attendance for several days, and consider that his recovery was probably protracted from my not having seen him, till three hours after he had taken the berries.

" I have had the pain to be called to the Harrow Road, on two occasions, where the little sufferers died, from my visits being protracted to ten and twelve hours, after the poisonous repast. In neither case could I obtain leave to inspect the bodies."

On animals, the berries of Solanum Dulcamara, produce but little, or no effect, as we have ascertained by experiments; the results of which, support the accuracy of those which are detailed in a work by *M. Duval*, entitled *Histoire Naturelle, Médicale, et Economique des Solanum.*

TREATMENT.—The treatment pursued by Mr. Wheeler, in the above-mentioned cases, was energetic and successful: and although a large dose of calomel, once administered, may not be objectionable, we should recommend the sulphate of magnesia, dissolved in almond emulsion, as the purgative, that should be persisted in.

CHEMICAL PROPERTIES AND USES.—Chronic rheumatism, gout, incipient phthisis, asthma, jaundice, and several other diseases, are said to have been benefited by the use of this plant; and although, it is now but little employed, it has been highly recommended by Linnæus, Carrere, and others, for its efficacy in herpetic diseases, scabies, and the eruptive, or secondary symptoms of syphilis. Murray, in his *Apparatus Medicaminum*, says it promotes all the secretions; and Bergius

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recommends its use in rheumatism, uterine obstructions, and suppression of the lochia. According to a letter from Sir Alexander Crichton, which is published in Dr. Willan's celebrated work on Diseases of the Skin, only two cases of Lepra Græcorum, out of twenty-three, resisted its action. Psoriasis and pityriasis, appeared also to be be benefited by it. His mode of employing it, is the following:

Take of stalks of Dulcamara, one ounce; water a pound and a half; boil to a pound and strain, when cold. Of this decoction, the patient is recommended to take two ounces, morning, noon, and evening, and to increase the doses, till a pint is consumed per day. Where the skin is not in an inflamed or very irritable state, a strong decoction may be applied, as a useful auxiliary. Dr. Crichton found that in delicate people, and hysterical women, it frequently produced syncope and slight palpitation of the heart, attended occasionally by nausea and giddiness. Our own experience confirms these remarks; but if the dose is somewhat diminished, and an aromatic added, these symptoms cease. Professors Bigelow and Murray, and Dr. Bateman, confirm the utility of this medicine; and the latter considers that "one of the most effectual remedies for lepra, under all its varieties, is the decoction of the leaves and twigs of the Solanum Dulcamara." We have often given it to patients afflicted with the different varieties of lepra, and sometimes with success; but as lepra is a disease, which, in this country, may be generally traced to a want of tone or vigour of system, we prefer a general mode of treatment, to a specific one; and believe, that experience will confirm the propriety of this view of the subject. By some, it is averred to be, a valuable auxiliary to mercury, and as it is a medicine indigenous to our own country, we should strongly recommend it to be employed on an extensive scale, in our hospitals, that its real powers may be ascertained. Dr. Cullen found different parcels of the herb, to exhibit very different degrees of strength: but as we think with Professor Bigelow, that "the appearance of slight narcotic symptoms, is an evidence of the goodness of the medicine," we can regulate the dose by its effects. As it is

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an active medicine, it is proper to begin with small doses. Dr. R. Pearson, in his Practical Synopsis of the Materia, observes, than an infusion or decoction of the stalks or twigs is a powerful diuretic, and has been given with good effect in humoral asthma and dropsy. He recommends two drachms of the fresh stalks, chopped small, to be infused in eight ounces of boiling water. Of this infusion, which is a more certain preparation than the decoction, since by long boiling, the active properties of the plant are mostly dissipated, two ounces may be given three or four times a day. Of the powder, which is rarely employed, the dose may be from one scruple to a drachm or more, gradually increased.

Off. Prep.—Decoct. Dulcamaræ. *L.*

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Digitalis purpurea.

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DIGITALIS PURPUREA.

Purple Foxglove.

Class XIV. DIDYNAMIA.—*Ord.* II. ANGIOSPERMIA.

Nat. Ord. LURIDÆ, *Lin.* SCROPHULARIÆ, *Juss.*

GEN. CHAR. *Calyx* 5-partite. *Corolla* bell-shaped, 5-lobed, ventricose beneath. *Capsule* ovate, 2-celled.

SPEC. CHAR. Segments of the *calyx* ovate, acute; *corolla* obtuse, upper lip undivided; *leaves* downy.

Syn.—Digitalis purpurea, *Lin. Sp. Pl.* 866; *Willd.* v. 3, 283; *Fl. Brit.* 665; *Raii. Syn.* 283; *Ger. Em.* 790. f. i.; *Bull. Fr.* t. 21.
Digitalis, n. 330, *Hall. Hist.* v. 1. 143.
Campanula sylvestris, seu Digitalis, *Trag. Hist.* 889. f.
FOREIGN.—*Grande Digitalis*, Fr.; *Digitale Porporina*, Ital.; *Dedalrea purpurea*, Span.; *Fingerhut*, Ger.

THIS may be considered not only as the most beautiful and conspicuous of our indigenous plants, but as one of the most valuable articles of the Materia Medica. It is equally remarkable for its stately growth, its elegant flowers, and its powerful effects on the animal economy. It is a biennial plant, growing abundantly in most parts of the island, particularly in the northern counties, on hedge-banks, and uncultivated places, delighting in a sandy or gravelly soil. We perceived it, but in no great plenty, in most of the woods near London; but Sir James E. Smith affirms that it rarely, if ever, occurs in Norfolk or Suffolk. It flowers in June and July.

Foxglove rises with a round, erect, downy, and generally undivided stem, to the height of three or four feet. The root is

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whitish, and consists of numerous long and slender fibres. The lower leaves are large, ovate, pointed, on short winged footstalks, and spreading upon the ground; the cauline ones are alternate, or elliptic-oblong, somewhat decurrent; and both kinds are downy, much wrinkled, crenate, and of a dull green colour on the upper surface, and paler underneath. The flowers are numerous, on short footstalks, drooping, of a bright reddish or purple colour, and terminate the stem in an elegant pyramidal spike. The calyx is divided into five acute segments; the upper one narrower than the rest; the corolla is bell-shaped, hairy, and spotted within, tumid on the lower side, and contracted at the base; the upper lip is slightly cloven, emarginate, and smaller than the lower one. The filaments are awl-shaped, inserted into the base of the corolla, bent downwards, and supporting large, oval, deeply cloven anthers; the germen is ovate, pointed, having a simple style with a bifid stigma. The capsule is ovate, the length of the calyx, bilocular, with two valves, containing numerous small, oblong, brownish seeds. A variety with white flowers is cultivated in gardens, as an ornamental plant.—Fig. (*a*) represents the germen and pistil; (*b*) the corolla cut away to shew the insertion of the filaments, and the position of the anthers; (*c*) the calyx.

Although this plant is so elegant and stately in its appearance, it does not appear to have attracted the notice of the ancients. Fuschius, in his *Hist. Stirp.* 1542, is the first author who notices it: and from him it received the name of Digitalis, in allusion to the German name of *Fingerhut*, which signifies a finger-stall, from the blossoms resembling the finger of a glove. All parts of the plant, have at different times been used, and we understand that the flowers are still preferred by some practitioners in the west of England. It was first introduced into the London Pharmacopœia in 1721 (*folia, flores, semen*) was discarded in the ensuing edition of 1746, and has been since restored to its *folia* alone: having encountered a like alteration of favour and proscription in the Edinburgh College.

Our own countrymen have long been aware of some of its most self-evident effects, for according to Gerarde, p. 647,

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" boiled in water or wine and drunken, it doth cut and consume the thicke tougness of gross and slimie flegme, and naughtie humours. The same, or boiled with honied water and sugar, doth scoure and clense the brest, ripeneth and bringeth forth tough clammie flegme. It openeth also the stoppage of the liver, spleene, and milt, and of the inward parts:" and Parkinson, who appears to have been an accurate observer, not only recommended it to be externally applied to scrophulous diseases, but extolls it as an expectorant, and "to clense and purge the body both upwards and downwards of tough flegme and clammy humours." He also states, that it is "effective against the falling sickness." Dr. Withering never observed any of our cattle to eat it.

Qualities and Chemical Properties.—The leaves of this plant should be collected just as it is about to blossom,* and the same advice which we gave, respecting the drying and preservation of Conium maculatum, applies equally to them. When properly dried, they have a slight narcotic odour, and a bitterish nauseous taste. When reduced to powder, they are of a beautiful green colour, which will be preserved by exclusion from light and air. The active principle has been separated by M. Le Rayer, and is termed *Digitaline*. It is inodorous, very bitter, deliquescent, and soluble in water, alcohol, and æther; and is decomposed by heat. He procured it by digesting the leaves in æther, and treating the solution with hydrated oxide of lead. Digitalis also appears to contain, ammonia, extractive, resin, and some salts. Both water and alcohol extract the virtues of the leaves; but boiling them impairs their power. Precipitates are produced by *sulphate of iron* and the infusion of yellow bark, &c. which are therefore *incompatibles*.

Symptoms.—When taken in an overdose, or injudiciously administered, it produces vertigo, drowsiness, vomiting, and purging; increased secretion of urine, with frequent motions to part with it; and sometimes inability to retain it; the pulse also intermits, is slow, and exceedingly depressed. Delirium,

* The London market is largely supplied by Mr. Austin, 2, Marlborough Square, Chelsea, who dries it in the sun, and immediately reduces it to a rough powder.

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hiccough, cold sweats, indistinct vision, convulsions, and syncope, terminate the scene.

Case 1st.—Dr. W. Henry was called in October 1809, to assist a female, an out-patient of the Manchester Infirmary, labouring under dropsy, who had taken an overdose of decoction of Foxglove. It was prepared by boiling two handfuls of the leaves in a quart of water, and then pressing the mass, so as to expel the whole of the liquor. Of this, at seven A.M. she drank two tea-cups full, amounting in the whole to not less than ten ounces by measure. Before eight, she began to be sick and vomited part of the contents of her stomach. Enough, however, was retained to excite vomiting and retching throughout the whole of that and the following day, during which, every thing that was taken was instantly rejected. In the intervals of sickness she was excessively faint, and her skin was covered with a cold sweat. The tongue and lips swelled, *and there was a constant flow of viscid saliva from the mouth. Very little urine was voided on the day she took the Digitalis, and on the following days, the action of the kidnies was entirely suspended.* When Dr. Henry saw her, which was forty-eight hours after she had taken the poison, the tongue was white, the ptyalism continued, though in a less degree, and the breath was fœtid. The pulse was low, irregular, (not exceeding forty,) and after every third or fourth pulsation, an intermission occurred for some seconds. She complained also of general pains in the limbs, and cramps in the legs. By the use of effervescing draughts, and æther with ammonia, she gradually recovered her imperfect health. Dr. Henry remarks, that she had not taken any mercury, and that the ptyalism was entirely the effect of Digitalis.—Ed. Med. and Surg. Journal, Vol. VII. p. 148.

This case is exceedingly interesting. It proves how carelessly medicine of the most deleterious description is frequently administered, even in our charitable institutions: and it confirms the power of Digitalis, upon the salivary glands, which Dr. Withering supposed that it sometimes excites. Dr. Barton, of America, also has known it to produce salivation on several patients.

2d.—"It is sometimes customary, in pharmaceutical laboratories, to leave tinctures upon the dregs, after they have stood a due time, and gradually to pour off the clear part for use; the dregs are afterwards pressed out, and the last portion of the tincture acquires, by this careless proceeding double the strength of the first. A person suffering under hydrothorax, who had been in the habit of taking forty drops of tincture of Digitalis, every night, went from home without his medicine, and was obliged to send to an apothecary in the country for an ounce of the tincture, of which he took his accustomed dose: its effects were much more violent than usual; and he died, exhausted by repeated fainting, in the morning."

3d.—"I know an instance of a person who suffered under anasarea of the legs, and who applied for relief at a Dispensary, where he received

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a box of pills, one of which he was directed to take three times a day. On the evening of the third day, he complained of great debility and faintness, and in the course of the night vomiting and fainting fits came on: in the morning he died, upon attempting to get out of bed."*

These cases, as well as many others which could be adduced, prove the imperious necessity of closely watching the effects of this medicine.

Boerhaave and Haller were aware of its poisonous qualities: and M. Salerne, of Orleans, gave continued doses to a turkey; an interesting account of which may be found in *Hist. de l'Acad.* 1748. p. 84. On opening it, he found the heart, lungs, liver, and gall bladder shrunk and dried up: the stomach was quite empty, but not deprived of its villous coat.

TREATMENT.—The effects of Digitalis must be combated by cordials, as brandy, punch, or ammonia. Small doses of opium have been found useful, and the dormant powers must be roused by frictions, blisters, cold effusions, &c. Should neither vomiting or purging have been produced by the poison, they must be excited by medicines.

MEDICAL PROPERTIES AND USES.—Were all that has been written on Digitalis to be collected, a ponderous volume of contradictions would be the result, for although the known virtues of the plant may be stated in a very small compass, it was at one time held forth as a never failing remedy in the worst and most common of diseases—pulmonary consumption. It was of course prescribed by almost every practitioner throughout the united kingdom; but time, which settles down the minds of men to a just appreciation of the truth, has proved that it is only in the incipient stages of consumption, when indurated tubercles are producing their irritative effects on the lungs, in which the constitution is beginning to participate, that the sedative effects of Digitalis, which are so benign and truly valuable, can be advantageously produced. And even in such cases as these, although we call in to our assistance, all the valuable auxiliaries of season, air, clothing, and diet, we shall often be disappointed: and debility, which we wish to con-

* Brande's Elements of Pharmacy, p. 80 and 81.

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troul or prevent, will too often appear to be accelerated by it. The direct power that it exerts over the heart, whereby the pulse is reduced both in power and velocity, entitles it to our notice, as one of the most important of our indigenous medicines. We fear however that its effects in inflammatory diseases, and fevers, are not sufficiently known, for although it was formerly used,* and Dr. Clutterbuck recommends it in typhus, and other forms of fever, it is not very generally prescribed.

As a diuretic, it is much used and highly prized, being more powerful and certain in its effects than any other. Withering affirms, that it is most successful in those cases of dropsy, in which debility is completely marked, and when the countenance is pale, the pulse weak, and the muscular energy lessened; while in an opposite state of the system it is more liable to fail. These observations are very often borne out by experience, and in the latter state of constitution, the exhibition of squills, of cream of tartar, and other debilitating agents; or copious bleedings to effect a reduction of strength, will frequently ensure its diuretic effects. How these effects are produced, it is difficult to ascertain, for when administered to a man in good health, the secretion of urine is not increased. We must therefore suppose, that it exerts no direct action on the kidnies, but that the *diuresis* must be ascribed to a balancing or correction of the secreting and absorbent systems; the latter being stimulated not only to regain their lost power, but to act with a force sufficiently great to carry off the effused fluid. Should it produce nausea or purging, its diuretic effects will be impaired. Withering advises us to give the powder in a dose from one to three grains, or an ounce of the infusion every eight hours, when the constitution is robust. These doses are to be continued until the medicine acts on the kidneys, the stomach, the pulse, or the bowels; and is to be stopped on the first appearance of such effects.

Dr. Murray's remarks on this part of the subject are so excellent, that we make no apology for transcribing them.

* Somerseti Angliæ rustica turba hujus decocto febricitantibus, purgationes et interdum superpurgationes et vomitiones humidioribus alvo molitur.—*Raii Historia Plantarum. art. Digitalis.*

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" Though Withering enjoined strictly the caution necessary in the use of Foxglove, the doses prescribed in his directions are perhaps rather large; and the propriety of the method which has sometimes been recommended, of progressively increasing the dose until the effects are obtained, is doubtful. If the dose be at first small, or at least, if having been raised to one grain of the powder, or one ounce of the infusion, twice in twenty-four hours, it be continued at this quantity, the diuretic operation will be obtained in no long time without any unpleasant symptom, and when it commences, will continue of itself, even though the dose is suspended. Or if, from peculiarity of habits, or the state of disease, the dose requires to be increased, it ought to be done slowly, and without that regularly progressive augmentation which has been recommended. And if the effects begin to cease before the reduction of the dropsical swelling be completed, it may be easily renewed by a repetition of this moderate dose. This mode of administering Foxglove is that suggested by the nature of its action. The peculiarity which is characteristic of it, is its tendency to accumulate in the system, its effects not appearing for a time, but at length being suddenly induced. There is no necessity, therefore, to increase its dose, or to give one that is large, with the view of speedily inducing its action, since from its continued administration, this will in no long time be established, and without that hazard which is otherwise incurred from this peculiarity in its operation."

It does not appear to be very useful in ovarian dropsy, nor in Hydrocephalus internus, or water of the brain; and in Hydrothorax, or dropsy of the chest, however valuable, it is a doubtful remedy; for it too often sinks the pulse, and diminishes the vital energy generally; and is particularly distressing for its producing nausea, and endangering deliquium; results which ought more especially to be guarded against in dropsy of the chest, as it is, in most cases, not merely a disease of debility, but of enfeebled age. When the full effects of Digatalis are exerting themselves, it is advisable that the patient should be kept in a recumbent posture, as many sudden deaths are on record, which are attributable to a neglect of this pre-

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caution; for "upon any sudden, and often upon any trifling exertion, the pulse immediately quickens, the heart throbs violently, nausea and fainting come on, and persons under the full influence of Digatalis have not unfrequently died suddenly under such circumstances." When opium disagrees, Digitalis may be substituted for it in cases of diarrhœa, and should always be preferred where there is any disposition to inflammation of the mucous membrane of the bowels. Palpitation of the heart, phlegmasia dolens, aneurisms, and pneumonia after bleeding, are often relieved by it; and in the acute stages of gonorrhœa virulenta, it is a valuable medicine. Cases of its success in epilepsy have been lately recorded; and in conjunction with copious bleeding, in a case of that rare disease, Paruria inops, in which there is no secretion of urine, and where the patient generally dies in a few hours from serous apoplexy, it effected a cure. "It has also been found of the greatest service when conjoined with nitrous acid, in the dropsy which occurs in broken down constitutions that have been harassed by mercury; but will not cure a dropsy attended with palsy, unsound viscera, or other complications of disease: but by allaying the urgency of the symptoms, it gains time for other medicines to act."

Formerly it was externally applied by fomentations and ointments; and so highly was it prized by the Italians, that they have the adage, "Aralda tutte le piaghe salda," Foxglove cures all wounds. It is now fallen into disuse, although strongly recommended by Murray,* Hulse, and other eminent practitioners. The infusion of Digitalis is a good form of administration in dropsy; or should the powder be given, it must be prepared in a pill, as in an interesting case, by M. Chantourelle,† it remained several days in the stomach, adhering closely to the parieties of that organ, and producing violent and dangerous effects. Its existence in the bowels was proved by its appearance in the dejections. The root has been occasionally used, but as the plant is biennial, it cannot be depended on.

OFF. PREP.—Decoctum Digitalis. *D.*
Infusum Digitalis. *L. E.*
Tinctura Digitalis. *L. E. D.*

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* Murray *Apparat. Med.* i. p. 491.
† Journal Général de Médicine, October 1822.

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Pl. 19.

Paris quadrifolia.

W. Clark del et sculp

London, Published by John Churchill, Leicester Square, May [illegible]

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PARIS QUADRIFOLIA.

Herb Paris.

Class VIII. OCTANDRIA.—*Ord.* IV. TETRAGYNIA.

Nat. Ord. SARMENTACEÆ, *Lin.* ASPARAGI, *Juss.*

GEN. CHAR. *Calyx* 4-leaved. *Petals* 4. *Berry* 4-celled, superior.

SPEC. CHAR. "*Leaves* ovate, about four." *Smith.*

Syn.—Herba Paris, *Raii. Syn.* 264, 1; *Ger. Em.* 405. *f.*; *Park. Theatr.* 390; *Camer. Epit.* 835. *f.*
Paris, n. 1006, *Hall. Hist.* v. 1. 429.
Solanum quadrifolium bacciferum, *Bauh. Pin.* 167.
Uva lupulina, seu Aster, *Trag. Hist.* 307. *f.* 308.
Aconitum pardalianches, *Fuchs. Hist.* 87. *f.* Ic. 48. *f.*
Paris quadrifolia, *Lin. Sp. Pl.* 526; *Willd.* v. 2. 471; *Fl. Brit.* 431.
ENGLISH.—*One berry; Herb Paris; True love.*

OF the genus Paris, two species only are known, Paris *quadrifolia*, which is a native of most countries of Europe, and Paris *polyphylla*, a plant which has lately been discovered in Nepal. The former is a perennial plant, growing in groves and moist woods in many parts of Britain, but rare. It grows plentifully in a grove at Cossey, near Norwich, and was found by Mr. Miller, in a wood near Hampstead; by Mr. Blackstone, in Hanging-wood, near Harefield, Middlesex; at Selborne, in Hampshire, by Mr. White; at Kimbolton, by our friend Mr. Fernie; and in Scotland, in a wood, about a mile south of Newbattle, near Dalkeith, by Dr. Parsons. It flowers in May and June.

The root is creeping. The stem rises about a foot high; it is simple, erect, smooth, round, and naked, except at top. The

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leaves, whose number is usually four, sometimes five or six, are ovate, pointed, entire, smooth, of a dull green colour, with three principal veins, and spreading horizontally in a sort of whorl on the top of the stem. The flower is solitary, on an erect angular peduncle, about an inch in length. The calyx consists of four lanceolate green leaves; the corolla of four linear acute ones, of a similar colour, and both remain till the fruit be ripe. The stamens are short, beneath the anthers, which are long, and inserted on both sides into the base of the filaments. The germen is somewhat globular, of a violet colour, supporting four styles, shorter than the stamens, with simple stigmata. The fruit is a purplish-black, four-celled berry, containing many seeds in a double series.

Qualities.—The leaves have a narcotic odour, and a peculiar taste, which is not disagreeable.

Medical Properties.—Herb Paris is one of the tribe of vegetables called narcotic, which, when received into the stomach in any considerable quantity, produces violent effects upon the nervous system, such as nausea, vomiting, vertigo, delirium, and convulsions; hence it has been ranked by most writers on the Materia Medica, among the class of poisons. Every part of the plant seems to possess this property, but the leaves and berries are supposed to be the most active. Linnæus assures us that the root, in doses of twenty to forty grains, operates as a gentle emetic, like ipecacuanha. MM. Coste and Willemet, who have investigated with considerable ardour and success, the properties of plants indigenous to France, also recommend the root, in doses of from one to two scruples, as a substitute for that useful medicine. They state, that it sometimes operates as a purgative. Gesner asserts that the berries prove noxious to poultry; and Krocker was credibly informed, that a child died in consequence of eating them. Bergius recommends the herb to be used externally in fomentations as a discutient, and internally as an antispasmodic in the hooping-cough, and various convulsive diseases. Parkinson says, "the roots boiled in wine help the colic, and the leaves applied outwardly repress tumours and inflammations." The exotic species, Paris *polyphylla*, is known to have a very poisonous root.

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Tussilago farfara.

W. Clark del. et Sculp.

London. Published by John Churchill, Leicester Square. May 1837.

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TUSSILAGO FARFARA.

Colt's-foot.

Class XIX. SYNGENESIA.—*Order* II. POLYGAMIA.

Nat. Ord. COMPOSITÆ DISCOIDEÆ, *Lin.* CORYMBIFERÆ SUPERFLUA, *Juss.*

GEN. CHAR. *Receptacle* naked. *Pappus* simple. *Calyx* scales simple, equal, numerous, submembranaceous, tumid at the base. *Seeds* compressed. *Florets* ligulate, toothless.

SPEC. CHAR. *Scape* 1-flowered, scaly. *Flowers* radiant. *Leaves* cordate, angular, toothed, tomentose beneath.

Syn.—Tussilago, *Raii. Syn.* 173. 1.; *Ger. Em.* 811. *f.*; *Park.* 1220; *Camer. Epit.* 590, 591. *f.*; *Bauh. Hist. v.* 3. *p.* 2. 563. *f.*; *Matth. Valgr. v.* 2. 198. *f.*; *Dalech. Hist.* 1051. *f.*; *Fuch. Hist.* 140. *f.*

Petasites, *n.* 143, *Hall. Hist. v.* 1. 62.

Ungula caballina, *Frag. Hist.* 418. *f.*; *Brunf. Herb. v.* 1. 42.

Bechium, *Tillands, Ic.* 24. *f.*; *Cord. Hist.* 93. 2. *f.*

Tussilago Farfara, *Lin. Sp. Pl.* 1214; *Willd. v.* 3. 1967; *Fl. Brit.* 878; *Hook Scot.* 242.

PROVINCIALLY.—*Fole's-foot; Horse-hoof; Bull's-foot.*

FOREIGN.—*Tussilage; Pas d'Ane*, Fr.; *Farfara*, Ital.; *Una de cabello*, Span.; *Tassilagem*, Port.; *Huflattisch*, Ger.; *Dwoje lisknik*, Russ.

COLT'S-FOOT is one of the commonest of our native plants, being found in profusion in most parts of the kingdom, and throughout Europe; growing in most shady situations, especially on a chalky or marly soil, in waste places, on the banks of rivers, and in gardens, where it frequently proves a very troublesome weed. It is a perennial, flowering from the middle

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of March to the end of April; but the leaves do not appear in full luxuriance till the month of May.

The root is very long, frequently penetrating to the depth of several feet, and sending out many slender fibres, which creep horizontally. The scape, or flower stem, appears before the leaves; it is erect, slender, round, woolly, slightly furrowed, six or eight inches high, and clothed with numerous lanceolate scales. Several stems generally issue from the same root, each supporting a single flower, about an inch in diameter, and of a bright yellow colour. The colour of the stem, as well as the scales, varies from pale green to reddish brown, as is well represented by the accurate pencil of Mr. Clarke, in the two varieties figured in the plate. The leaves are radical, cordate, on channelled footstalks, slightly lobed, and toothed; smooth above, with reddish veins; but white and woolly underneath: when young, the leaves are revolute, and covered with a cottony down, which easily wipes off. The scales of the involucrum are lanceolate-linear; equal to the length of the disc; erect at first, but afterwards become reflexed. The corolla is compound; the florets are all fertile, those of the ray very numerous; female, twice the length of the disc; of the centre tubular, with five equal segments, furnished with stamens and pistils. The seeds are smooth, oblong, compressed, generally abortive; and crowned with a silvery down, which is sessile, and permanent. The receptacle is naked, flat at first, but afterwards becomes convex. Fig. (*a*) represents a floret of the ray with the bifid pistil; (*b*) a floret of the disc, both slightly magnified; (*c*) the seed, with its pappus or down; (*d*) a floret of the disc, much magnified and spread; shewing the situation of the pistil, with the five united anthers, and the insertion of the filaments into the throat of the corolla. The stem on the right, exhibits the situation of the seeds, with their hairy crowns, and part of the naked receptacle from whence the seeds have been removed.

QUALITIES.—The dried leaves are inodorous, and have a rough subviscid taste like that of artichokes. "The mucus they contain is yielded to water by coction and evolves, by boiling, a peculiar odour."

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MEDICAL PROPERTIES AND USES.—The dried leaves of this plant generally form the basis of British herb tobacco, and amongst the ancients, it was famed for its pectoral and vulnerary properties. Dioscorides,* Pliny, and Galen,† recommend it to be smoked through a funnel or reed, and in a work, "*de internis affectionibus.*" *Ed. Fæs.* p. 532. l. 34, attributed to Hippocrates, the root βηχιον, taken in honey, is recommended for ulcerations of the lungs.

Dr. Cullen, on the authority of Fuller, employed its expressed juice in scrophulous cases; administering several ounces a day; and in some instances he thought that it favoured the healing of scrophulous sores: subsequent experience, however, has not confirmed its power over the limphatic system. During the last century, both the leaves and the flowers were recommended for their demulcent and expectorant properties; but although it still retains a place in our Pharmacopœia, it is seldom used, and independently of its mucilaginous virtues, it may be considered an unnecessary, and useless article, of the Materia Medica.

A nostrum, which is shamefully called the "Essence of Colt's-foot," consists of equal parts of the *Balsam of Tolu*, and the *Compound Tincture* of Benzoin, to which is added, double the quantity of *rectified spirit of wine.* This composition, which contains no Colt's-foot, is certainly one of the most baneful medicines that could have been imposed upon the public in pectoral cases. The injurious tendency of warm resinous substances in pulmonary consumption has been pointed out, in a Dissertation by the late Dr. Fothergill. In a slight cold, the foundation of a suppuration of the lungs is laid by their use, from their increasing the inflammatory disposition, and exciting general fever; and hence it is not improbable, as a popular writer justly remarks, that more fatal cases arise in pulmonary

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* "Folia suffita vero sicca, ita ut ex iis fumus per infundibulum, hiante ore excipiatur, hauriaturque eos sanant qui sicca tussi, et orthopnæa infestantur; pectoris etiam vomicas rumpunt. Eundem effectum præbet suffita radix." *Dioscorid. l. c.*

† "Bechium sic nominatum est quod tusses et orthopnæas juvare sit creditum, si quis folia arida aut radicem in prunis urens, ascendentem inde fuliginem inspiratu attrahat." *Galen. Simpl. l.* 6.

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complaints from the officious interference of domestic practice, or the nostrum of the patent warehouse, than from the real incurable nature of such maladies. Consumptive patients who take such an exhilirating, but pernicious cordial, may be compared to a flower on the bank of a river—it blossoms luxuriantly for a season, but the moisture that feeds its roots, undermines its foundation.

Those who wish to exhibit Colt's-foot, on account of its demulcent properties, generally boil a handful of the leaves in two pints of water, to one pint; and the decoction, after being strained, is sweetened with honey, or coarse sugar. The dose is a teacupful.

A kind of tinder or touchwood is, in some countries, made of the roots, impregnated with nitre.

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Helleborus fœtidus.

London Published by John Churchill Lacester Square. June. 1827

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HELLEBORUS FŒTIDUS.

Fœtid Hellebore, Bear's-foot, or Setter-wort.

Class XIII. POLYANDRIA.—*Ord.* VI. POLYGYNIA.

Nat. Ord. MULTISILIQUÆ, *Lin.* RANUNCULACEÆ, *Juss.*

GEN. CHAR. See Helleborus *niger*.

SPEC. CHAR. *Stem* many-flowered, leafy. *Leaves* pedate, glabrous. *Petals* converging.

Syn.—Helleboraster maximus, *Raii. Syn.* 271.; *Ger. Em.* 976. *f.*
Helleborus niger fœtidus, *Bauh. Pin.* 185.
Helleborus, n. 1193, *Hall. Hist. v.* 2. 87.
Veratrum nigrum tertium. *Dod. Pempt.* 386.
Helleborus fœtidus, *Lin. Sp. Pl.* 784; *Willd. v.* 2. 1337; *Fl. Brit.* 598.
PROVINCIALLY.—*Great Bastard* and *Stinking Black Hellebore, Helleboraster, Settle,* or *Setter-wort, Ox-heal.*
FOREIGN.—*Hellebore fœtide,* Fr.; *Elleboro fœtido,* Ital.; *Helleboro hediondo,* Sp.; *Stinkende Niesswurzell,* Ger.

THIS is a perennial plant, growing naturally in many parts of Britain, on pastures and in thickets, particularly on a calcareous soil. According to Sir James E. Smith, it grows abundantly on the castle hill at Castle-Acre, Norfolk; and Gerarde, who lived in the 16th century, says that it was wild in his time in many woods and shady places in England. Dr. Hooker, in his Flora of Scotland, states, that it occurs also plentifully on the banks of the Clyde at Blantyre Priory; on old walls at Barncluish, in the vicinity of Glasgow; and between Anstruther, and Kepply, near Edinburgh. It is a well-known plant in gardens; flowering in March and April.

The root is small, bent, and surrounded by numerous dark-coloured fibres; the stem rises to about two feet in height; towards the bottom it is strong, round, naked, and marked with alternate cicatrices, the vestiges of former leaves; is divided, and

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subdivided into branches, and compressed at the top, producing many flowers. The leaves, which stand upon long channelled footstalks, surrounding the middle of the stem, are divided, as in black hellebore, into several leaflets, usually seven or nine in number, long, narrow, serrated, lanceolated, and of a dark green colour. The scaly leaves, or *bracteas*, placed at each ramification of the flower-stem, are smooth, trifid at the lower part, and bifid towards the top; but those near the flowers are ovate, pointed, and of a much paler green than the proper leaves. The flowers are numerous, terminal, drooping, of a pale green, and stand upon long footstalks, forming a sort of panicle: the petals are five, ovate or heart-shaped, concave, permanent, and tinged at the apex with reddish purple: the nectaries are eight to ten, very minute, tubular, and placed in a circle within the petals. The stamens are very numerous, the length of the petals, supporting white anthers; the germens three or four, becoming beaked pods like those of black hellebore, containing many small oval seeds disposed in two rows.—Fig. (*a*) represents the stamens, with the situation of the nectaries; (*b*) the capsules, or pods.

Qualities.—The smell of the recent plant is very fœtid, its taste bitter, and remarkably acrid, excoriating the mouth and fauces. "The stipulis possess these qualities in a greater degree than the proper leaves." The plant loses much of its acrimony by drying.

Symptoms.—When administered in an undue quantity, this plant proves an extremely virulent poison. Its action seems very much to resemble that of Helleborus *niger*; occasioning sickness, vomiting, pain in the stomach, violent catharsis, convulsions, and death. In Westmoreland, where this plant grows in great abundance, it has obtained, from its pernicious quality, the name of *felon-grass*. From the following fact, related by Mr. Martin, on the authority of Dr. Milne, it would appear that it is also a poison to sheep. Several years ago, when the ground was covered with a deep snow, a flock of sheep in Ox-meadow, near Fulborn, in Cambridgeshire, finding nothing but this herb above the snow, eat plentifully of it. They soon appeared terribly dis-

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ordered, and most of them died; a few being saved by having a quantity of oil administered to them in time, which made them vomit up the pernicious herb. Some of those which died, on being opened, were found to have their stomachs greatly inflamed. Notwithstanding its deleterious properties, the helleborus *fœtidus* is sometimes employed by the common people, and also by itinerant quacks for the destruction of worms, and not unfrequently proves fatal. The following account, by a Mr. Cooke of Leigh, in Essex, is taken from the *Oxford Magazine* for 1769, vol. ii. p. 99.

"It is much used by venturesome quacks in decoction and coarse powder to kill worms in the belly, which it never fails to do. But it has a deleterious, poisonous quality, which some bodies cannot overcome, and then it is dangerous. Where it killeth not the patient, it would certainly kill the worms; but the worst of it is, it will sometimes kill both. Wherefore it is so dangerous a drug, it ought never to be internally applied but upon very extraordinary cases, when other anthelmintic medicines have failed, if ever they do, and even then too by a very skilful hand: and yet, alas! nothing is scarcely more commonly used by women, especially in country places, than the decoction, or powder of this violent vegetable, for the purpose aforesaid. It has been known to kill several youths, and an old woman also, near fifty, in three hours' time. Others, it violently vomits, and renders heart-sick, even to swooning away; and if, through mere strength of nature, they overcome its violent operation and recover, some have lost their hair and the nails from their fingers and toes; and the scarf-skin of the whole body has also peeled off from head to foot thereby—a plain proof of strong poison.

"I had a most melancholy story from a mother in this city, viz. that a country fellow gave some of this plant to his two sons, one of six, the other of four years old, to kill worms; and that before four in the afternoon, they were both corpses."

TREATMENT.—See article Helleborus *niger*.

MEDICAL PROPERTIES AND USES.—The whole plant is acrid, and violently cathartic; it sometimes operates as an emetic, and in large doses, is highly deleterious. It is used chiefly as a vermifuge; the dried leaves in powder, are given in ten grains to half a drachm; but its doses do not appear to have been precisely ascertained. The best form for children is a syrup. For this purpose, the bruised leaves are recommended to be first moistened with a little vinegar, then the juice is expressed from the leaves, and made into a syrup with coarse sugar. A tea-

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spoonful is given at bed-time, and one or two in the morning, for two or three successive days, increasing or diminishing the dose according to the strength of the patient. In the western counties, according to Dr. Parr, a tincture is sometimes made of the leaves with cyder, and said to be an useful preparation. In whatever way, however, it is employed, says this able physician, no medicine acts with more certainty than bear's-foot as an anthelmintic. The root is often used in veterinary practice for the rowels for cattle; and if the powder of the leaves be applied to an ulcerated surface, a profuse discharge is excited. It is, on account of these properties, that it is vulgarly called oxe-heele, setter-wort, setter-grass, from *settering*, a term used by farriers, and supposed to be a corruption of setoning. Its virtues, as a vermifuge, were known to Gerarde, and it is frequently used as a domestic medicine in Yorkshire; but, in consequence of its violent properties, medical men seldom prescribe it; and it might, with great propriety, be expelled the Pharmacopœia, into which it was introduced at the recommendation of Dr. Bisset, who says, "It is by far the most powerful vermifuge for long and round worms of any I have yet experienced. The decoction of about a drachm of the green leaves, or about fifteen grains of the dried leaves in powder, is the usual dose for children from four to seven years old. A full or sufficient dose generally proves more or less emetic, and often looses the belly a little. It is usually repeated on two, and sometimes three successive mornings: the second dose has commonly a greater effect than the first, and never fails to expel round worms by stool, if there be any lodged in the alimentary canal." Happily for mankind, science is continually enlarging the sphere of our usefulness; and worms, which were formerly considered as the causes of disease, may generally (excepting the *tænia*) be treated as the consequences of disordered primæ viæ, and remedies worse than the malady discarded from practice. Dr. Bisset speaks of the plant as also useful in some asthmatic and hypochondriacal affections. Adanson says, that an injection of an ounce of the decoction of the roots is preferable to every other remedy in epileptic fits, arising from the presence of worms in the intestines.

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Arum mas

W. Clark, del et sculp

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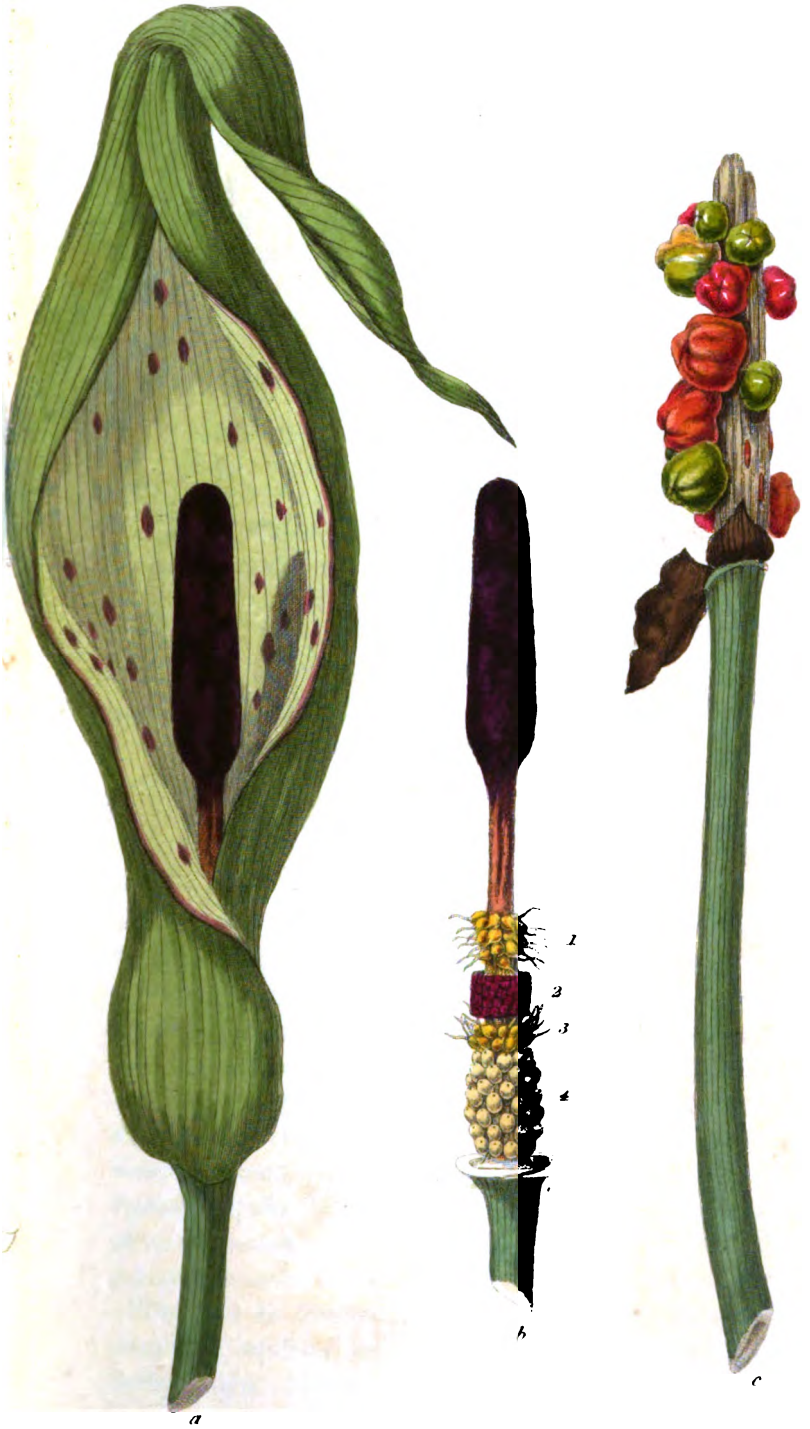

sculatum.

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XXII.

ARUM MACULATUM.

Common Arum.

Class XXI. MONŒCIA.—*Ord.* VII. POLYANDRIA.

Nat. Ord. PIPERITÆ, *Lin.* AROIDEÆ, *Juss.*

GEN. CHAR. *Spathe* 1-leaved, cowled. *Corolla* 0. *Spadix* androgynous, naked above, bearing stamens in the middle, and germens at the base.

SPEC. CHAR. *Stem* none. *Leaves* radical, hastate, entire. *Spadix* club-shaped.

Syn.—Arum *Raii Syn.* 266. *Bauh. Hist.* ii. 783.
Dracontium minus, *Dod. Pempt.* 327.
Arum vulgare, *Ger. Em.* 834. *Park.* 373.
Arum maculatum, *Lin. Sp. Pl.* 1370. *Willd.* iv. 4779. *Fl. Brit.* iii. 1024.
PROVINCIALLY.—*Lords and Ladies. Wake Robin. Cuckow-pint.*
FOREIGN.—*Gouet*, Fr.; *Aro*, Ital.; *Aronswurzel*, Ger.

THIS is a well-known perennial plant, a native of many parts of Britain, generally growing under hedges, remarkable for its acrimony, and the singular structure of its fructification. "At the first approach of spring," says Sir James E. Smith, "the verdant shining leaves of *Arum* are seen shooting up abundantly wherever any brushwood protects them from the tread of men, or cattle. In May, the very extraordinary flowers appear. In autumn, after both flowers and leaves have vanished, a spike of scarlet berries, on a simple stalk, are all that remains; and few persons are aware of the plant to which they owe their origin."

The root is tuberous, about the size of a chesnut, with numerous capillary fibres, brown externally, and white and fleshy within. The leaves, which spring immediately from the

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root, are large, hastate, entire, smooth, of a dark green colour, frequently spotted, and supported on long channelled footstalks. The flower-stem is a simple scape, obscurely channelled, and terminated by the spathe, inclosing the parts of fructification. The spathe (*a*) is erect, pale green, sometimes spotted, very concave and pointed. The spadix (*b*) is club-shaped, obtuse, of a deep purple colour; at its base are several roundish germens and a ring of sessile anthers; above these is placed many roundish bodies, terminated by longish filaments; these Linnæus called the nectaries. The fruit (*c*) consists of several globular berries, of a bright scaflet colour when ripe, crowded on an oblong spike, each berry containing two or more seeds.—Fig. 1 and 3, represent the abortive germens, or nectaries; 2, the sessile anthers; 4, the germens.

Qualities.—The root is nearly white, and free from smell. When recent, it is very acrimonious; so much so, that on tasting a small piece, an insupportable sensation of burning and pricking was produced, which lasted several hours. Applied to the skin, it produces blisters: but its acrimony is lost by drying, which leaves the root a farinaceous substance, which in some countries has been converted into bread; and being saponaceous, is used in France, under the name of *Cypress Powder*, as a cosmetic. Water and spirit abstract the acrid principle, but derive no virtues from it: it is entirely on the acrid properties that its medical virtues depend. "The expressed juice reddens vegetable blues, and has been found to contain malate of lime." Starch has been also prepared from it. Vauquelin found malic acid, in the state of supermalate of lime, in Arum and some other plants.

In some countries, the tuberous roots of many of the Arums, particularly those of A. *Colcasia*, a native of Syria and Egypt, are dried and eaten by the inhabitants, either roasted or raw. In the West Indies, the leaves of some of the sorts, particularly that of the A. *esculentum*, are boiled and eaten as greens; hence the names of Indian-kale and esculent Arum, which have been given to this species. The roots of A. *sagittifolium* are also edible; but they are less generally cultivated. Mr. Loudon, in his valuable *Encyclopædia of Gardening*, informs us, that in the Isle

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of Portland, the common people gather the roots, of our spotted Arum, and send the produce to London, where it is sold as Portland sago.

For medical use, Dr. Lewis recommends the root to be dug up just as the leaves are decaying; and by being put into sand, in a cellar, they may be preserved the greater part of the year.

Symptoms.—Warzel, a German practitioner, has administered the fresh root of arum to dogs: they died at the end of from twenty-four to thirty-six hours, without any other symptom than dejection, and the digestive canal was found somewhat inflamed.

Bulliard relates the following case: "Three woodman's children ate of the leaves of this plant: they were seized with horrible convulsions. Assistance was procured for them too late; it was impossible to make the two youngest swallow any thing; they were bled without success; clysters were given them, which produced no effect: they died, one at the expiration of twelve days, another at the end of sixteen. The other child was still able to swallow, although with considerable pain, because its tongue was so swelled that it filled the whole cavity of the mouth; but deglutition became free after being bled. The child was made to drink milk, warm water, and especially an abundance of olive oil. A diarrhœa came on, which saved the child; it was pretty well restored in a short space of time, but always preserved a very great degree of leanness."—*Histoire des Plantes Vénéneuses de la France*, p. 84.

Treatment.—Our first object should be, to evacuate the stomach by emetics of sulphate of zinc, or of copper; after which, the bowels should be relaxed by the sulphate of magnesia dissolved in almond emulsion, which may be copiously partaken of to allay thirst, and sheath the mucous membrane of the bowels from their acrid contents. Injections of mutton broth may likewise be employed; and small doses of opium frequently administered, after thorough evacuations have been produced. It is very evident, however, from Bulliard's statement, that the principal mischief existed in the throat and tongue; and under such alarming circumstances, we should have applied leeches to the former, or scarified and compressed the latter. Ice might like-

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wise be applied to the same parts. By adopting these active means, deglutition would most probably be restored, and time afforded for a judicious management of the case.

Medical Properties and Uses.—Arum is a very powerful stimulant, and when taken internally, in its recent state, it warms the stomach, excites the activity of the digestive organs, promotes perspiration, and exerts an action on most of the secretory organs. It has, therefore, been given with success, in cachetic, chlorotic, and rheumatic complaints, and in various other affections of torpid and phlegmatic constitutions. Bergius, whose authority is not to be despised, speaks of its success in certain kinds of headache; and intermittents are said to have yielded to it. "If the root be given in powder, great care should be taken that it be young, and newly dried, when it may be used in the dose of a scruple, or more, twice a day; but in rheumatism, and other disorders requiring the full effect of the medicine, the root should be given in a recent state; and to cover the insupportable pungency it discovers on the tongue, Dr. Lewis advises us to administer it in the form of emulsion, with gum arabic and spermaceti, increasing the dose from ten grains to upwards of a scruple, three or four times a day. In this way, it generally occasions a sensation of warmth about the stomach, and afterwards in the remoter parts; promotes perspiration, and frequently produces plentiful sweats. The root answers as well for cataplasms for the feet, in deliriums, as garlic does. The London Pharmacopœia of 1788, orders a conserve, in the proportion of half-a-pound of the fresh root to a pound-and-half of double refined sugar, beat together in a mortar. The dose is a drachm for adults, and it is a good form for the exhibition of the medicine." But the difficulty of administering the arum in a uniform manner, prevents it from being often used.

Dose.—The fresh root may be given in doses of fifteen or twenty grains three times a day.

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Asarum europæum.

W. Clark, del. et sculp

London. Published by John Churchill. Leicester Square. June 1827.

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ASARUM EUROPÆUM.

Asarabacca.

Class XI. DODECANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. TARMENTACEÆ, *Lin.* ARISTOLCHIÆ, *Juss.*

GEN. CHAR. *Calyx* 3-cleft, superior. *Corolla*, *O.* *Capsule* coriaceous, 6-celled.

SPEC. CHAR. *Leaves* two on each stem, kidney-shaped, obtuse.

Syn.—Asarum, *Raii. Syn.* 158.; *Ger. Em.* 836. *f.*; *Bauh. Pin.* 197.
Asarum vulgare, *Park. Theatr.* 266.
Asarum, s. 1547, *Hall. Hist. v.* 2. 252.
Asarum europæum, *Lin. Sp. Pl.* 633; *Willd. v.* 2. 838; *Fl. Brit.* 509; *Hook. Fl. Scot.* 146; *Fl. Dan. t.* 633; *Bull. Fr. t.* 69.
FOREIGN.—*Asaret*; *Cabaret*, Fr.; *Asaro la bacchera*, Ital.; *Asaro de Europa*, Span.; *Haselwurtzel*, Ger.; *Hasselört*, Swed.; *Asaroon*, Arab.
PROVINCIALLY.—*Common Asarabacca*; *Fole's-foot*; *Hazelwort*; *Wild Nard.*

THIS is the Ασαρον of Dioscorides, and other ancient authors. It is a perennial plant, a native of England, and other parts of Europe, but extremely local in this country, being confined chiefly to a few places only, in the northern counties. It was found many years ago, as we learn on the authority of the celebrated Ray, in several woods in Lancashire. It was observed also in considerable abundance by Dr. Batty near Kirby Lonsdale, in Westmoreland, where it is collected by the peasantry for medical use; by Mr. Hutchinson, near Keswick, in Cumberland; by the Rev. Dr. Abbot, in Berkshire, by the side of the road between Henley and Maidenhead; by our friend Mr. Fernie, in a wood near Kimbolton, Huntingdonshire; and ac-

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cording to Professor Hooker, by Miss Liston at West Binny, near Linlithgow, in Scotland. The flowers, which are partly concealed by the herbage, have a singular lurid aspect, and appear early in May.

The Asarabacca grows wild in moist shady situations. The root is creeping, fleshy, and fibrous. The stem is very short, seldom exceeding an inch; is simple, round, pubescent, bearing a single flower and a pair of leaves only, which spring almost immediately from the root. The leaves are opposite, kidney-shaped, smooth, dark green, shining, and stand upon long downy footstalks. The flower is solitary, rather large, drooping, of an herbaceous colour externally, and dusky purple within, standing upon a short peduncle at the base of the leafstalks. The calyx supplies the place of a corolla; it is large, bell-shaped, coriaceous, and divided at the mouth into three rather deep, pointed segments, which are turned inwards. The stamens are twelve, about half the length of the calyx, and produced beyond the anthers into a little hook. The style is simple, crowned with a stigma divided into six radiated recurved segments. The capsule is coriaceous, six-celled, crowned with the substance of the calyx, and containing many ovate seeds.—Fig. (*a*) represents a perpendicular section of the flower, showing the position of the cells and six of the filaments, the calyx being removed; (*b*) the pistil.

The generic name Asarum, is derived from a, *priv*, and σαιρω, *orno*, to adorn, *quoniam in coronis non addatur*, because, says Pliny, it was not admitted into the ancient coronal wreaths.

It appears, from Pliny, that the *Asarum* was formerly confounded with the *Baccharis*, (*Inula dysenterica*, Lin.) and the English name is a compound of both—Assara-bacca.

The roots of Asarabacca are brought to us from Leghorn, and the dried leaves from Dauphiny, Languedoc, and Auvergne.

QUALITIES.—The leaves and roots, when recent, are nearly inodorous; their taste is acrid, bitter, somewhat aromatic, and nauseous. By keeping the leaves, they lose much of their power, and should be dried without heat. By coction they are rendered inert, but the watery infusion possesses the sensible

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qualities of the leaves. The recent root, when distilled, yields a volatile oil, which smells like camphor; but this is not obtained from the dried root.

Medical Properties and Uses.—Both the roots and leaves are emetic, cathartic, and diuretic; and previously to the introduction of ipecacuanha, Asarabacca leaves were often administered in doses of half a drachm, and the root in doses of ten grains, to excite vomiting; but as their operation was sometimes violent, they are fallen into disrepute. Its chief use in the present practice is as an errhine, where we wish to increase the secretion of mucus by the nostrils, or to influence the state of the brain. About three grains is the quantity to be used, which produces a copious flow of mucus from the nostrils, whereby painful affections of the head, eyes, and teeth, will be often benefitted. The discharge is frequently going on for several days; but if the dose be too strong, hæmorrhage from the nostrils is sometimes produced. Exposure to cold, during its use, must be sedulously guarded against. Errhines (says a popular writer) were remedies formerly in much repute, but they require, more than others, great caution in their use. If we consider the minute circulation of the brain, the thinness of the vascular coats, and the great quantity of blood accumulated in the head, every stimulant remedy specially acting on this part, must be attended with great danger of producing rupture in some part of the minute ramification of vessels, and thus occasioning effusion on the brain. In all full and plethoric habits, therefore, such applications cannot be too much condemned. Their action is to excite convulsions, or strong efforts of sneezing, which may, by irritation of the nostrils, elicit a discharge from the whole surface of this organ, and by sympathy communicate also its influence to the higher parts beyond the reach of the application. It is only then in cases of temporary obstruction that such remedies can be of use, and their operation can be no more than producing an artificial evacuation for the time. Hence, where a peculiar dryness of this part takes place, and where the state of the constitution does not forbid the application of moderate stimulants, they may be applied at times with considerable benefit. In obstinate op-

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thalmia, connected with laxity of the organ, the irritation of the nostrils by errhines has sometimes effected a cure. The best preparation for this purpose is the *pulvis asari* compositus of the Edinburgh Pharmacopæia, which consists of the dried leaves of asarabacca three parts, the leaves of marjoram and flowers of lavender, of each one part, reduced to powder. A few grains of this, which was long known under the name of *pulvis cephalicus*, snuffed up the nose, procures a considerable evacuation for a long time, without causing much sneezing or inconvenience to the patient. The nostrum called Collins's *Cephalic Snuff*, seems nothing more than the foreign snuff mixed with British, and a certain quantity of some aromatic.

OFF. PREP.—Pulvis Asari Compositus. *E. D.*

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Rosmarinus officinalis.

W. Clark del et sculp.

London. Published by John Churchill, Leicester Square. June 1827

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ROSMARINUS OFFICINALIS.

Officinal Rosemary.

Class II. DIANDRIA.—*Ord.* I. MONOGYNIA.

Nat. Ord. VERTICILLATÆ, *Lin.* LABIATÆ, *Juss.*

GEN. CHAR. *Corolla* unequal, with the upper lip 2-parted. *Filaments* long, curved, simple, with a tooth.

SPEC. CHAR. *Leaves* sessile.

Syn.—Rosmarinus coronarius fruticosus, *Raii.* Hist. 515; *Bauh. Hist.* ii. 25.
Libanotis coronaria sive Rosmarinum vulgare, *Park. Theatr.* 74.
Rosmarinus, *Hall. Helv.* n. 250.
Rosmarinus officinalis, *Lin. Sp. Pl.* 33; *Willd.* v. i. 126; *Sibthorp, Fl. Græc.* t. 14.
FOREIGN.—*Rosmarin*, Fr.; *Rosmarino*, Ital.; *Romero*, Span.; *Rosmaninho*, Port.; *Rosmarin*, Ger.; *Yong tsao*, Chin.

ROSEMARY is a native of the south of Europe; but if planted in a dry soil in a sheltered situation, it survives our ordinary winters; flowering in April and May. When the roots enter the crevices of an old wall, says Mr. Neill, the plant is not injured by the severest frosts. It is an evergreen, shrubby plant, rising four or five feet high, much branched, downy, and thickly covered with leaves. The leaves are opposite, sessile, linear, about an inch in length, and one-sixth of an inch broad, dark green, smooth, and shining above, with the margin reflected, and woolly, or whitish underneath. The blossoms, which stand on little opposite leafy branches, on short footstalks, are of a pale blue colour, variegated with purple and white, and exhaling, like the leaves, a strong fragrant odour resembling camphor.

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The calyx is bell-shaped, and villous; the corolla is ringent, with the tube longer than the calyx, the upper lip erect and bifid; the lower divided into three segments; the middle larger, concave, and notched. The stamens are two, longer than the corolla, curved, and furnished with a minute lateral tooth. The anthers are oblong, and blue; the style the length of the stamens, arched, and furnished with a simple pointed stigma. The seeds are four, naked, and situated at the base of the calyx. —Fig. (*a*) represents the calyx, &c.; (*b*) a section of the corolla, showing the insertion of one of the filaments, with its anther; (*c*) the pistil and germens.

The generic name, Rosmarinus, is evidently derived from the Latin, *ros*, dew, and *marinus*, in allusion to its inhabiting the sea-coast. "Those," says a distinguished modern author, "who have observed it mantling the rocks on the Mediterranean, with its grey flowers glittering with dew, cannot but be struck with the elegant propriety of the name."

The leaves of the wild rosemary are larger than those of the cultivated sort; the flowers are also much larger, and of a deeper colour. There are also two distinct varieties of this plant; one with white-striped leaves, called the *Silver Rosemary;* the other with yellow-striped leaves, and hence denominated *Golden Rosemary*. The former variety is very tender.

Rosemary is the Διβανωτις of Dioscorides, and other ancient authors, and is supposed to be referred to by Virgil in the following lines:

> "Nam jejuna quidem clivosi glarea ruris,
> Vix humiles apibus casias roremque ministrat."
>
> GEORG. ii. v. 212.

It was supposed by the ancients that it comforted the brain, and imparted strength to the memory; and these properties are referred to by our old poets: "There's rosemary, that's for remembrance," says the distracted Ophelia, in Shakespeare's play of Hamlet; and Perdita says to Polixines and Camillo:

> ——————Reverend sirs,
> For you there's rosemary and rue; these keep
> Seeming and favour all the winter long;
> Grace and remembrance be to you both.

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Rue signifying grace, and *rosemary* remembrance. Its supposed quality of strengthening the memory, made it also an emblem of fidelity to lovers: thus, in a Sonnet of 1584, we have:

> "Rosemary is for remembrance
> Betweene us daie and night;
> Wishing that I might alwaies have
> You present in my sight."

It was accordingly worn at weddings: and it is probable that the same principle caused it to be used at funerals, for in some parts of England it is still distributed amongst the company, who throw sprigs of it into the grave. Abercrombie, in his *Practical Gardener*, alludes to this practice, but supposes the motive to be "a precaution against contagion." From its smelling like incense, it was termed *Libanotis* by the ancients; and *Coronarius*, on account of its being used in garlands.

QUALITIES AND CHEMICAL PROPERTIES.—Rosemary has a fragrant smell, and a bitter pungent taste. The leaves and tops are strongest, and the flowers ought not to be separated from the calyxes, as the active matter resides principally, if not wholly, in the latter. The leaves and tops distilled with water, yield a thin light pale essential oil of great fragrancy, though not quite so agreeable as the plant itself.* Twenty-four pounds of

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* "Distilled oils are frequently called *volatile, essential*, or *ætherial* oils. Their chemical characters are nearly the same, from whatever vegetables they are procured; but in their sensible qualities they vary considerably, possessing different colours, consistence, smell, and taste. The two latter properties are, of course, derived from that of the plant from which they are obtained; their colours, like those of the fluid fixed oils, are various shades of yellow, green, and brown; they are generally fluid; but some of them, as especially oil of aniseed, congeal by a very moderate reduction of temperature. They are very sparingly soluble in water, but sufficiently so to impart their smell and flavour to it. They are very readily dissolved by spirit of wine, and they boil at different temperatures. Their volatility is much increased by the presence of water, with the vapour of which they rise in distillation at a temperature considerably below their boiling point. They are extremely combustible, and much more so than the expressed oils. Most of them are lighter than water, but some sink in that fluid: among the former are the oils of lavender, rosemary, and mint; and of the latter, the oils of cassia, cinnamon, and cloves, are examples. They are easily decomposed by sulphuric and by nitric acid, and when suddenly mixed with the latter, some of them inflame.

"Like the expressed oils, they are composed of different proportions of oxygen, hydrogen, and carbon.

"The volatile oils are capable of dissolving the fixed oils, and hence the latter are sometimes employed in adulterating them. This fraud may be easily detected by dropping some of the suspected oil on paper; if there be any fixed oil mixed

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the plant yield one ounce of fluid oil, which when kept, deposits crystals of camphor. Its specific gravity is 0,9057, *Haüy*. Rectified spirit likewise, distilled from rosemary leaves, becomes considerably impregnated with their fragrance; and the active matter of the flowers is somewhat more volatile than that of the leaves, the greatest part of it rising with spirit.

MEDICAL PROPERTIES AND USES.—Rosemary was formerly highly esteemed for its virtues in nervous head-aches, hysterical complaints, and uterine obstructions; and although it is very commonly used by the vulgar for its emmenagogue virtues, we worship not at the shrine of popular superstition, and depend upon medicines much more worthy of regard.

A weak infusion of fresh rosemary leaves furnishes a pleasant substitute for tea, and is particularly agreeable to some dyspeptic stomachs. On account of its odour, it is sometimes added to sternutatory powders; and the spirit of rosemary is used as a cosmetic and anti-nervous cordial, under the name of Hungary water; which enters largely into the composition of the compound spirit of lavender, and the compound soap liniment. The essential oil is stimulant, in doses of two, to five or six drops; but it is very rarely employed internally. The dose, in substance, is from a scruple to half a drachm.

A most pernicious nostrum, sold under the name of "*Balsam of Rakasiri*," consists merely of highly rectified spirits of wine, flavoured with oil of rosemary, and is recommended by its *Jewish* proprietors, as a remedy for consumption!

OFF. PREP.—Oleum Rosmarini, *L. E. D.*
Spiritus Rosmarini, *L. E. D.*

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with it, it will remain on the paper after exposure to a moderate heat. Where a cheaper volatile oil has been employed to adulterate a more costly one, the detection can scarcely be made by any other means than by the difference of odour. If spirit of wine be mixed with the oil, when it is dropped upon water, a milky fluid is formed, instead of there remaining a transparent film of oil on the surface of the water."

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Rheum palmatum

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XXV

RHEUM PALMATUM.

Palmated Rhubarb.

Class IX. ENNEANDRIA.—*Order* III. TRIGYNIA.

Nat. Ord. OLERACEÆ, *Lin.* POLYGONEÆ, *Juss.*

GEN. CHAR. *Calyx* 0. *Corolla* 6-cleft, persistent. *Seed* 1, three-sided.

SPEC. CHAR. *Leaves* palmate, pointed, roughish; the sinus dilated at the base. *Stalks* obsoletely furrowed above, and rounded at the edge.

Syn.—Rheum palmatum, *Lin. Sp. Pl.* 531; *Willd.* II. 488.
Rhabarbarum, *Bauh. Hist.* ii. 989. *Lob. Ic.* i. 289.
Rhabarbarum et ponticum genuinum officinarum, *Park. Theatr.* 156.
FOREIGN.—*Rhubarb*, Fr.; *Rhabarbaro*, Ital.; *Ruibarbaro*, Span.; *Rhabarber, Aechte Rhabarber*, Ger.; *Ta Hoam*, Chin.

THE palmated rhubarb is a native of Russia, and some parts of Asia, whence the dried root is imported into this country for medicinal purposes. It is sufficiently discriminated by the specific characters, and is besides so well known, as to render a minute description unnecessary. The root is large, thick, oval, branched, brown externally, and of a deep yellow colour within. The stem is erect, round, hollow, jointed, branched at top, and rises to the height of six or eight feet. The lower leaves are very large, palmated, acuminate, somewhat rugged, and stand upon long-channelled smooth petioles, grooved above and rounded at the edge with ferruginous dots; those of the stem are placed close to the stalk, and become gradually smaller towards the summit. The flowers, which appear in May and June, are small, white, numerous, surrounding the stem, and collected at the extremity of the branches, forming a sort of spike. The corolla is divided into six obtuse segments; the filaments are nine, the length of the corolla, and supporting oblong anthers; the style is short, with three reflected stigmas. The germen becomes a triangular seed, acute, with membranaceous margins. Fig. *(a)* represents a flower somewhat magnified; *(b)* a seed.

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The Raphontic Rhubarb, R. *Raphonticum*, was first cultivated by Mr. John Parkinson, in 1629, the seeds of which were sent to him by Dr. Lister, one of the king's physicians. On making trial of the roots, they were found very inferior in power to those of the Rhubarb of Commerce. In 1759, Dr. Boerhaave procured the seeds of R. *undulatum*, which is a native of China and Siberia. It was cultivated by Miller, but not very generally received as the true Rhubarb; which induced Boerhaave to procure from a merchant the seeds of the plants which produced the roots that he annually sold, and were admitted at St. Petersburg to be genuine Rhubarb. These seeds were soon propagated, and were discovered to produce two distinct species, namely, the Rheum *undulatum*, referred to above, and the R. *palmatum*, which has for some time been supposed to be the true root, not only by botanists, but by the acknowledged authorities in the Pharmacopœias of London and Edinburgh; though the Dublin college retain the R. *undulatum*. The seeds of R. *palmatum*, were first introduced into Britain in 1762, by Dr. Mounsey, who sent them from Russia: both Prof. Martyn and Dr. Hope cultivated them at the same time, the former at Cambridge, and the latter at Edinburgh. It appears, however, that we are indebted to several species of Rheum for our valuable medicine, as Georgi relates that a Cossack pointed out the R. *undulatum* to him as the true Rhubarb; while Prof. Pallas states that in Bukharia, the *palmated* sort seems to be unknown; and that as far as he could collect from description, the species they consider as the true one is the *compactum*; the seeds of which Mr. Miller informs us, were sent to him from St. Petersburgh, as the true Tartarian Rhubarb. We have been favoured by Mr. David Don, Librarian of the Linnæan Society, with a copy of his remarks on the "Rhubarb of Commerce." The following is an extract:

"Mr. Sievers, an enterprising assistant of Professor Pallas, and well known by his interesting Letters on Siberia, published in the *Nordische Beyträge*, was sent by the Empress Catharine II. purposely to try to obtain the true Rhubarb plant from its native country; and although, after travelling for seven years in the countries adjacent to that in which it is found, he was unable to effect the object of his mission, yet he obtained sufficient information to convince him that the

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plant was then unknown to botanists. But it was reserved for Dr. Wallich, the zealous superintendent of the Calcutta Botanic Garden, to set this long agitated question at rest, by the transmission of seeds and dried specimens of the true Rhubarb plant to Europe. Last spring, Mr. Colebrooke received a quantity of the ripe seeds from Dr. Wallich, and presented a portion of them to Mr. Lambert, who has been so fortunate as to raise a number of plants of this valuable vegetable. The seeds were sown in pots, and, by the aid of artificial heat, soon vegetated. The young seedlings were transplanted into several pots filled with rich earth, and the pots were gradually changed as the plants increased in size. By this treatment, as might well be imagined, the young plants grew vigorously, and, at the end of autumn, the leaves were from fifteen inches to a foot in breadth, and the footstalks nine inches long, with half an inch in diameter. The plant, on examination, proved to be identical with my *Rheum australe*,* from Gosaingsthan in the Himalaya Alps. I find Dr. Wallich calls it *Rheum Emodi*, a name which I should certainly have adopted, had I been aware of it before the publication of my work. The whole plant is thickly beset with numerous, small, bristle-shaped, cartilaginous points, which give it a rough feel. The leaves are of a dull green, and the footstalks are red and deeply furrowed. The native samples I have seen appear to be smaller in all their parts, and the leaves, although flowering specimens, frequently not more than three or four inches broad; the footstalks four inches long, and slender, and the flowering stem not above two feet high. It is curious to observe how well this description accords with what Sievers has given us. The *Rheum australe* appears to be peculiar to the great table lands of central Asia, between the latitudes of 31° and 40°, where it is found to flourish at an elevation of 11,000 feet above the level of the sea; and there is little doubt, therefore, of its proving perfectly hardy in our own country. Large quantities of the roots are annually collected for exportation in the Chinese provinces within the lofty range of the Himalaya. The best is that which comes by way of Russia, as greater care is taken in the selection; and on its arrival at Kiachta, within the Russian frontiers, the roots are all carefully examined, and the damaged pieces destroyed. This is the fine rhubarb of the shops, called improperly Turkey Rhubarb."

Mr. Don has kindly promised to give us a specimen, when the plant flowers, which we intend to have figured.

Culture.—Since the introduction of R. *palmatum*, it has been largely cultivated in this country; and we are informed by the best authority, that the London market is principally supplied from Banbury. Fine specimens are worth about six shillings per pound, and resemble Turkey Rhubarb in their appear-

* *R. australe*, foliis subrotundo-cordatis obtusis planis subtus margineque scabris sinu baseos dilatatis, petiolis sulcatis teretiusculis cum ramis pedunculisque papilloso-scabris, perianthii foliolis ovali-oblongis apice crenulatis.—*Don, Prod. Fl. Nepal, p.* 75.

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ance more than they do East India; although it is for the latter that they are principally substituted. The article sold at the herb shops under the designation, "English Rhubarb," is the produce of the R. *undulatum;* the stalks of which are used for tarts. It may be bought for ninepence per pound, and from its want of power has caused undeserved reproach to be cast on the proper cultivated sort.

Twenty pounds of English Rhubarb,
Seven pounds of East Indian,
Three pounds of Turkey,

ground together, are the proportions employed by one of the most fashionable druggists at the west end of the Town, to form a fine looking article, denominated by them, and sold as, "Fine Turkey Rhubarb." The Society for the Encouragement of Arts, Manufactures, and Commerce, exerted itself for many years to promote the culture of Rhubarb in this country; and medals and other rewards were voted to Sir A. Dick, Mr. Jarman, Mr. R. Davis, Jun. of Minehead, Mr. Ball, of Williton, Mr. Jones, late of Fish-Street Hill, &c.

Mr. Davis recommends the seeds to be sown in a very gentle hot-bed, in March, and when the roots are about the size of a crow's quill, they should be drawn up carefully to preserve the taproot, and planted in a fine rich earth in a deep soil; if the weather should prove dry, they must be watered. When the plants are once in a growing state, all farther care and trouble are at an end, but that of keeping them free from weeds. The distance of the plants should be eight feet; and *as they disappear above seven months in the year*, the ground may be usefully employed in many articles of gardening, from the middle of August to the beginning of April.

The seeds, however, do not require a hot-bed to make them vegetate, but if sown in the natural ground during the spring, when the weather is open, soon come up and thrive fast. The plant delights most in a rich, light, deep soil, and warm exposure, but will thrive almost in any situation.

Mr. Jones's method:

"Sow the seeds in March and April, or during the autumn, in August and September; the former to be transplanted in autumn, the latter in spring. Instead of placing the seedling plants where they are to remain, as is usually recommended, beds should be prepared resembling those which are made for asparagus, of fine mould, from twelve to eighteen inches deep. When the young plants are four or

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five inches high, and have thrown out as many leaves, transplant them upon those beds at eight inches asunder; selecting, first, the largest, carefully drawing them out, so as to destroy or even disturb the fibres as little as possible. Watering the bed previously to the removal, will greatly facilitate the operation.

"In the culture of rhubarb, the whole difficulty consists in bringing the plants through their first season; if the weather be hot and sultry they must be shaded, and at all events must be continually watered. For transplanting, a wet or cloudy day should be preferred; and if the weather should continue for two or three days successively, not more than four or five in a hundred will probably be lost. In a month the roots will have made fresh shoots, and new leaves will have succeeded the former, which commonly, notwithstanding all our care, will wither away. The plants may now remain till the ensuing spring, or if the summer be favourable, and the land intended for the plantation be well trenched three feet deep, it may be completed without delay. It is a good way to sow the ground with carrots; the surface by this means being preserved from weeds, and rendered finer by repeated hoeings, and the bottom kept light and open. At different periods during the summer, when the plants are of a proper size, and the weather is cloudy or showery, with a transplanter or circular spade, remove them with a ball of earth adhering, at the prescribed distances, into the midst of the carrots, destroying such as might obstruct the growth of the rhubarb; and if the weather should prove unusually hot, the foliage of the carrots will preserve the young plants from the sun till they have acquired a sufficient growth; after this it remains only to keep the plantation clear, and the trenches open."*

"In the choice of situation the aspect is not very material, provided it be not shaded too much on the south or west. The indispensable points are the depth and quality of the soil, which should be light, loamy, and rich, but not too much so, lest the roots should be too fibrous: it can scarcely be too dry, for more evil is to be expected from a superabundancy of moisture, than from any actual want of it. A declivity is very eligible for the plantation. When a plantation does not possess this material advantage, narrow beds and deepened trenches are among the artificial means that should be adopted; but most situations will require some care to prevent the ill effects of water remaining on the crowns of the plants: therefore, when the seed-stalks are cut off, which ought always to be done on the withering of the radical leaves; they should be covered with mould in the form of a hillock. This will answer two good purposes, that of throwing off the rain, and keeping open the trenches, by taking the earth from them."

If the roots be covered with litter, or the earth be drawn over them in winter, they will rise stronger the following spring; and some recommend the seeds to be sown where the plants are to remain, and when they appear, the ground should be kept free from weeds. When thinned out, the distance of the plants should be eight feet.

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* Trans. Arts. 15. 167.

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Sir W. Fordyce, who sowed the seeds at first upon a hot-bed, on the whole found that they succeeded best when sown in the open ground, in an east or south-east exposure, during the last half of March, or in April, or even so late as the end of May if the spring proved cold or dry. The plants may then be transplanted during the whole course of the summer.

If the ground be stirred about a seeding plant, the seeds falling will produce plenty of young plants, both in the autumn and the following spring; these may be transplanted about midsummer.

They blossom the third year, and till then the medicinal qualities of the roots scarcely come into existence.

The Chinese get up their rhubarb in winter. Pallas says that the Tartars take up theirs in April and May; but in Bell's account, this is said to be done in autumn. Forster, in his History of Voyages to the North, affirms, that the roots are dug up in winter, because they then contain the entire juice and virtue of the plant; those that are taken up in summer, being of a light spongy texture, and unfit for use. We should think, that in this country, February would be the month most fit for digging up the roots. The greatest difficulty appears to be in drying, and curing them.

In Tartary, being thoroughly cleaned, and the smaller branches cut off, they are cut transversely into pieces of a moderate size; these are placed on long tables or boards, and turned three or four times a day, that the yellow viscid juice may incorporate with the substance of the root. If this juice be suffered to run out, the roots become light and unserviceable: and if they be not cut within five or six days after they are dug up, they become soft, and decay rapidly. Four or five days after they are cut, holes are made through them, and they are hung up to dry, exposed to the air and wind, but sheltered from the sun. Thus, in about two months, the roots are completely dried. The loss of weight is very considerable; seven loads of green roots yielding only one small horse-load of perfectly dry rhubarb.

The Chinese method is somewhat different. They skin the root, cut it into slices, and dry them on stone slabs, under which large fires are kindled; but, as this process is not sufficient to

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dry them perfectly, they make a hole through them and suspend them on strings, some say exposed to the sun; while Kochin asserts, that they are hung in the shade. Were we to cultivate rhubarb in this country, we should take the same preliminary steps that are practised by the Tartars, and afterwards dry the pieces in a malt-kiln, where they might be hung on strings without interfering with the barley.

From experiments made at the Bath hospital, it appears that the purgative qualities of English are scarcely so strong as Turkey or East India rhubarb, but the difference is not great. And from a great number of trials made by Dr. Parry, it appears that one of the specimens of English rhubarb was fully equal in its effects to the Turkey.

Upon the whole, if English rhubarb should be allowed to be inferior to the foreign, which is perhaps doubtful, it appears probable, that this inferiority is owing only to such circumstances as attention and industry may obviate; and that this might be done in a great measure by attending to the age of the plant when taken up; to the root being cut transversely, rasped on the outside, having the sappy parts cut out, and being quickly dried. The best specimens of the drug have generally been allowed to grow seven years; the roots are then very large, weighing from thirty to fifty pounds.

When it is considered that the duty on East India rhubarb is 2*s*. 6*d*. per pound, and that about £200,000 is paid annually for what is imported into this country, the subject is one of considerable importance, and has arrested the attention of Mr. Salisbury of the Fulham Road; whose zeal for the improvement of domestic economy, particularly as applicable to Ireland, is well known to the philanthropic part of the community. He has favoured us with a sample of the root cultivated by himself, and to him we are likewise indebted for the following remarks:

. . . . . .

"Rhubarb grows well in light loamy soils: it blooms at the age of three years, and ripens abundance of seeds by which the plants are raised. The propagation requiring particular care and attention, should be considered more the work of a nurseryman than that of the farmer; and if a sale were found for a quantity, they could be raised fit for planting out at five shillings per hundred.

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"The land intended for this crop should be trenched as deep as it will bear, without throwing up a bad under soil, and the plants set at exact squares three feet apart; so that 4,840 will just plant an English acre. During the summer season the land must be frequently hoed; and at the autumn or winter it should be every season dug, and particular care paid to throw the mould up to the roots. By observing this plan during the winter, and raking it off in spring, the growth will be much encouraged. Unless it is necessary for the purpose of saving seeds none of the plants should be allowed to throw up blooming stems, which on their appearance should be cut down: otherwise the plants are weakened at the root.

"The crop must stand seven years on the land, and, in fact, experience proves that the roots will keep increasing in size till a much older period, so that it might be taken up after that period, at such time as best suited the market, or the proprietor's pleasure.

"The quantity in weight of the roots, at the end of seven years, will consequently vary according to circumstances; but from an experiment made this present autumn, the writer is warranted in the supposition that from one acre *five thousand pounds weight* may *at least* be expected of *prime rhubarb*, besides a quantity that would find sale for inferior purposes to the druggists—as *extract, tincture*, &c.

"The labour attending this crop, from the distance the plants are apart, is very trifling, and would require less expense than in crops where the plants stood thicker, as in *madder*, &c., where the *hoeing* and *weeding* is more tedious. The expense would be, in Ireland, as follows:

First Year.	£.	s.	d.
Rent of one acre, or 160 perches	2	0	0
Five thousand plants, at 50*s*	12	10	0
Trenching, at 5*d*. per rood	3	6	8
Planting	1	0	0
Hoeing, three times, at 7*s*. per acre each time	1	1	0
	£19	17	8

Second Year.	£	s.	d.			
Rent	2	0	0			
Digging among the plants, at 2*d*. per rood	1	6	8			
Hoeing, three times	1	1	0	4	7	8
Ditto for five following years				21	18	4
				£46	3	8
Trenching land to take up the crop, at 1*s*. per perch				8	0	0
Preparing and drying the crop, at 2*d*. per lb. 5,000 lbs.				20	16	8
Tythe, seven years, at 8*s*.				2	16	0
Total				£77	16	4

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We have been almost wholly indebted for our materials on the cultivation of rhubarb, to an able article in Miller's Gardener's Dictionary, which was written by the late Professor Martyn; and those who are desirous to glean more information, may consult that work with pleasure and advantage.

Qualities and Chemical Properties.—The best rhubarb, termed Turkey, or Russian, is in small pieces, with a hole in the middle, made in the recent root for the purpose of drying it. The colour is a lively yellow, streaked white and red. Its texture is dense, and its powder a bright yellow. In selecting rhubarb, the pieces should be broken, and those which are of a bad colour, or exhibit appearances of decay, should be rejected. The smell of rhubarb is somewhat aromatic, and it has a nauseous, bitter, slightly astringent taste.

"Another kind, imported from China, is known by the name of East Indian rhubarb: it is in larger masses, more compact and hard, heavier and less friable, and less fine in the grain than the other, and having less of an aromatic flavour." * It is said by Dr. Kelman, to be the produce of the same plant, but that it is prepared with less care. Water digested upon rhubarb dissolves about 50 *per cent.* The infusion is yellow-brown, and contains mucilaginous, extractive, and astringent matter. Alcoholic tincture of rhubarb has a deep yellow colour, and a remarkably penetrating nauseous taste and odour. It is generally stated, that rhubarb contains oxalate of lime, but Mr. Brand has never succeeded in obtaining oxalic acid from it, though he has procured an uncrystallizable acid, having the characters of the malic acid. The following substances were obtained from 100 parts of the finest Turkey rhubarb:—

Water	8 . 2
Gum	31 . 0
Resin	10 . 0
Extract, tan, and Gallic acid	26 . 0
Phosphate of lime	2 . 0
Malate of lime	6 . 5
Woody fibre	16 . 3
	100 . 0

* Murray's Materia Medica, vol. i. p. 361.

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MEDICAL PROPERTIES AND USES. — The virtues of Rhubarb are so well known, that it appears almost a work of supererogation to mention them. As a cathartic, from one scruple to half a drachm is required for a dose: but a few grains are sufficient to excite the action of the stomach and intestines, and are often employed, when it is desirable that the food should be assisted quickly to pass from the former, or when we merely wish to increase the natural action of the latter. In these small doses it will be found useful in hypochondriasis, jaundice, and in symptoms of dyspepsia, as it obviates costiveness, and by its bitter principle has a tendency to restore the tone of the digestive organs. By some it is considered to have an astringent effect, after its operation as a purgative has ceased: it is therefore recommended to be exhibited in diarrhœa; and is especially adapted for the bowel diseases of infants. It may be advantageously combined with sulphate of potash as a purgative for children, or with any other of the neutral salts; and to cover its nauseous flavour, it is usual to prescribe with it, a few grains of powdered cinnamon, or some matic water. It is also an excellent adjunct to calomel. Combined with the extract of camomile, or gentian, a useful tonic pill is formed, to which may be added preparations of soda, when antacids are required. The tincture of rhubarb is an excellent stomachic, given with some bitter infusion, but the vulgar practice of taking it for pains in the bowels, too often increases the inflammation when it exists. Rhubarb speedily passes off by the kidneys, and may frequently be detected in the urine, ten minutes after taking it, by the aid of an alkali. Sir E. Home has advised the powder to be applied to ulcers, which require a slight stimulus, but the practice is seldom adopted. The footstalks of the R. *undulatum* are used for culinary purposes; and Dr. Todd Thompson has recommended the palmated species.* But a friend of ours, whose palate is in good order, and whose botanical knowledge is great, has adopted his advice, without becoming a convert. He states, that the astringency was so

* Gardener's Mag. Oct. 1826, *p.* 396.

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powerful, that neither he nor his family could eat it; which proves the truth of the old adage: "De gustibus non est disputandum."

Off. Prep.—Infusum Rhei, *L. E.*
Vinum Rhei, *E.*
Tinctura Rhei, *L. E. D.*
Tinctura Rhei composita, *L.*
Tinctura Rhei et Aloes, *E.*
Tinctura Rhei et Gentianæ, *E.*
Pilulæ Rhei compositæ, *E.*

The following Table, by Dr. Todd Thompson, shows the effects of re-agents on the aqueous infusion of the two varieties of rhubarb; and this gentleman thinks, with M. de Lassaignes, that the acid contained in rhubarb, and termed *rheumic* by Mr. John Henderson, is the oxalic acid.

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TABLE I. Precipitates formed by Acids, Alkalies, and Neutral Salts.

Variety of Rhubarb.	Sulphuric Acid.	Nitric Acid.	Muriatic Acid.	Oxymuriatic Acid.	Solution of of Potass.	Solution of Subcarbonate of Potass.	Lime water.	Muriate of Barytes.	Silicated Potass.
Russian.	copious, greenish yellow.	scanty, flocculent, pale yellow.	scanty, very slowly formed, yellow.	slowly formed, pale olive.	none, but strikes a deep lake colour.	none, but strikes reddish brown.	scanty, slowly formed, brown.	scanty, olive green.	none, but strikes a deep brown.
Chinese.	more copious, brownish yellow.	less scanty, pale yellow.	scanty, quickly formed, brownish yellow.	slowly formed, orange yellow.	none, a deeper lake.	none, but renders it turbid, and deep reddish brown.	copious, quickly formed, brown.	less scanty, orange yellow.	none, but strikes a deep brown.

TABLE II. Precipitates formed by Solutions of Metallic Salts.

Variety of Rhubarb	Solution of Oxysulphate of Iron.	Solution of Nitrate of Silver.	Solution of Nitrat. of Mercury	Solution of Nitrate of Lead.	Solution of Muriate of Mercury.	Solution of Acetate of Lead.	Solution of Tartarized Antimony.
Russian.	copious, nearly black.	scanty, pale greenish yellow.	copious, olive yellow.	scanty, slowly formed, yellow.	scanty, slowly formed, pale olive.	scanty, greenish yellow.	scanty, slowly formed, whitish.
Chinese.	copious, deep olive-green.	copious, orange-yellow.	copious, heavy, bright yellow.	scanty, slowly formed, deeper yellow.	copious, quickly formed, heavy yellow.	copious, yellow.	scanty, still more slowly formed.

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Pl. 26

Tormentilla erecta.

W. Clark del. et sculp.

London. Published by John Churchill, Princes Street, Soho, [illegible]

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XXVI

TORMENTILLA ERECTA.

Common Tormentil, or Septfoil.

Class XII. ICOSANDRIA.—*Order* V. POLYGYNIA.

Nat. Ord. SENTICOSÆ, *Lin.* ROSACEÆ, *Juss.*

GEN. CHAR. *Calyx* 8-cleft. *Petals* 4. *Seeds* roundish, naked, affixed to a small juiceless receptacle.

SPEC. CHAR. *Stem* ascending, branched. *Leaves* ternate, sessile. *Stipulas* lanceolate, serrate.

Syn.—Tormentilla, *Raii. Syn.* 257.; *Ger. Em.* 992. *f. Camer. Epit.* 685. *f.*
Fragraria *n.* 1117. *Hall. Hist. v.* 2. 47.
Tormentilla erecta, *Lin. Sp. Pl.* 716; *Willd. v.* 2. 1112
Tormentilla officinalis, *Fl. Brit.* 552.; *With.* 476.; *Hook. Fl. Scot.* 164.
Potentilla Tormentilla, *Sibth.* 162.; *Grev. Fl. Scot. p.* 116.
FOREIGN. — *Tormentil*, Fr.; *Tormentilla*, Ital. Span. Port.; *Tormentilwurzel*, Ger.; *Sabiasnoi koren*, Russ.

OF this genus there are two British species, Tormentilla *erecta*, and T. *reptans*. The former, which is the subject of the present article, is distinguished by its smaller flowers, its sessile leaves, and its more or less erect stem. They are both very common plants, particularly the present species, growing on dry heathy pastures, by road-sides, throughout Europe; and flowering in June and July.

Common Tormentil has a large perennial, woody, irregular, knotty, and generally crooked root, dark-brown externally and reddish within. It sends forth several stems, which as the trivial name imports, are erect, sometimes procumbent, or spreading, and seldom exceed a foot in length; they are round, slender, wiry, and branched towards the top. The leaves are mostly sessile, and composed of three oblong, acute, deeply serrated leaflets, slightly hairy and paler underneath, but dark-green above, and accompanied by small, deeply-cut stipules. The flowers are small, solitary, of a golden-yellow colour, and stand upon long slender axillary, or terminal stalks; each flower consisting of four obcordate petals, attached by short claws to the rim of the calyx. The calyx is hairy, and cut into eight or ten ovate, unequal segments. The filaments are about sixteen, awl-shaped, shorter than the corolla, having roundish erect anthers.

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The germens are very small, usually eight, each supporting a single short thread-shaped style, with obtuse stigmas. The seeds are ovate, naked, obscurely wrinkled, and smooth.---Fig. *(a)* represents the calyx; *(b)* the stamens; *(c)* the pistils.

The generic name *Tormentilla*, a diminutive of *tormentura*, a pain or griping, is supposed to be expressive of its use in alleviating pains in the teeth, or of the bowels, *tormina*.

QUALITIES AND CHEMICAL PROPERTIES.—The root of tormentil possesses a slightly aromatic odour, and a strong astringent taste. "To boiling water it yields its active matter, which appears to be tannin, as the infusion is copiously precipitated by solution of isinglass. Excepting galls and catechu, it contains more tannin than any other vegetable."

MEDICAL PROPERTIES AND USES.—Tormentil root was formerly used in the plague and other malignant diseases, and was recommended by Vesalius as no less effectual than guaiacum for syphilis. It is now merely used as an astringent; but because it is indigenous, and to be found on almost every heath, it is seldom prescribed. We believe it, however, to be one of the best medicines of its class; and, as it produces its astringent effects without increasing excitement, Dr. T. Thompson recommends it to be given in those diarrhœas which attend pulmonary consumption. It forms an excellent application in the form of gargle, for spongy gums and ulcerations of the mouth or tongue, and has been recommended as an external application to ill-conditioned sores. In the Orkneys the roots are used in the tanning of leather; and, in the islands of Tiree and Coll, a decoction of them in milk, is employed by the inhabitants, as a domestic remedy, in diarrhœa, and dysentery.

Tormentil root may be given either in the form of decoction, or of powder; but as it enters into the composition of the *pulvis cretæ compositus* (L), that preparation is generally prescribed by those who are conversant with its virtues. Those persons are very few, we are ashamed to acknowledge; for, trying the experiment, we ascertained, that nine medical men out of twelve were ignorant of the composition into which it enters.

DOSE.—In substance, from half a drachm, to one drachm.

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Iris Florentina.

W. Clark, del. et lith.

London, Published by John Churchill, Princes Street, Soho, 1827

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XXVII

IRIS FLORENTINA.

Florentine Iris.

Class III. TRIANDRIA.—*Order* I. MONOGYNIA.
Nat. Ord. ENSATÆ, *Lin.* IRIDES, *Juss.*

GEN. CHAR. *Corolla* 6-parted; the alternate segments reflected. *Stigmas* petal-like.

SPEC. CHAR. *Corolla* bearded. *Leaves* sword-shaped, smooth, shorter than the subbiflorous scape.

Syn.—Iris flore albo, *Raii. Hist.* 1180.; *Bauh. Hist.* II. 719.
Iris alba florentina, *Ger. Em.* 52.; *Park.* 180. *t.* 183. *f.* 2.;
Iris florentina, *Lin. Sp. Pl.* 55. *Willd. v.* 1. 224. *Sibth. Fl. Græc.* 28. *t.* 39.
FOREIGN.—*Iris de Florence*, Fr.; *Ireos*, Ital.; *Iris*, Span.; *Violenwurzel*, Ger.

THIS species of iris is a perennial plant, a native of Carniola, and some parts of the south of Europe; but it is common in our gardens, and was cultivated by Gerarde, in the end of the sixteenth century. The flowers are very handsome, and appear early in May.

The Florentine Iris has a thick tuberous knobbed root, externally brown, yellowish-white within, and sending out numerous fibres from the under part, which, when they are pared off, makes it appear full of round spots. The leaves are radical, sword-shaped, sheathing, of a glaucous green colour, pointed, and somewhat curved inwards at the apex. The stems are erect, simple, cylindrical, about two feet high, and bearing each two or three flowers. The flowers, which terminate the stalks, are large, white, erect, and spring from a ventricose sheath, or calyx, of two leafy valves. The corolla is divided into six segments or petals, the three outer ones being the largest; the outer petals are thick and fleshy near the base, and bearded within, with white hairs, yellow at the tip; the border is rounded, emarginate, and an inch wide, reflexed, white and striated near the flexure; the inner erect petals are narrow, bluish white, bent inwards, and have thick greenish claws. The stamens are three, lying on the larger petals, and crowned with long pale yellow anthers; the germen is oblong, obtusely triangular, and

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placed below the corolla; the style is short and thread-shaped: the stigma separates into three equal dilated segments, of the texture of the petals, which arch over the stamens. The capsule is three-celled, and contains many flat brown seeds. Fig. (*a*) represents a front, and (*b*) the posterior view of a stamen; (*b*) the pistil.

QUALITIES.—The recent root is acrid, and excites when chewed, a pungent heat in the mouth, which continues several hours; but on being dried, this acrimony is lost, and the taste becomes somewhat bitter. That which grows in England has but little odour; but the foreign roots, which are brought from Italy, possess a most agreeable fragrance, resembling violets.

MEDICAL PROPERTIES AND USES.—Several species of Iris, amongst which is the I. *florentina*, possess hydragogue purgative properties, and the expressed juice of the latter, in drachm doses, was formerly administered for the cure of dropsy. In its dried state, it also entered into the composition of the *Trochisci Amyli*, in consequence of expectorant virtues being attributed to it; and on the Continent it is still used as an errhine, combined with other substances. Orris powder is frequently used by females and others, in large quantities, as a perfume, and serious consequences are said to have been produced by this practice. Dr. Aumont, in a paper lately read to the Royal Academy of Sciences in France, relates a case in which two young girls became paralytic and insensible from having put a considerable quantity of Orris root into their hair on going to bed. When they awoke in the morning, they were seized with violent head-ache and giddiness, with pain and heat in the throat, similar to what is produced by cantharides, and the younger, of the two, was completely paralytic, on the right side for more than five hours. With us, it is now merely employed to cover odours in the mouth, or to form a pleasant basis for tooth powder. For the sake of those ladies who patronize our undertaking, we subjoin the following elegant "*Receipt for Tooth Powder.*"

Take of, Powder of Orris root, two drachms,
Powder of burnt hartshorn, one ounce,
Dragon's blood, powdered, half a drachm,
Attar of roses, two drops. Mix.

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Pl. 259

Aconitum Napellus

W. Black, del. et lith.

London, Published by John Murrhill, Leicester Square, July 1824

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ACONITUM NAPELLUS.

Common Monk's-hood, or Wolf's-bane.

Class XIII. POLYANDRIA.—*Order* III. TRIGYNIA.

Nat. Ord. MULTISILIQUÆ, *Lin.* RANUNCULACEÆ, *Juss.*

GEN. CHAR. *Calyx* 0. *Petals* 5, the highest arched. *Nectaries* 2, peduncled, recurved. *Pods*, 3 or 5.

SPEC. CHAR. Divisions of the leaves linear, broader above, and scored with a line.

Syn.—Aconitum cœruleum seu Napellus, *Bauh. Pin.*
Aconitum Napellus, *Lin. Sp. Pl.* 751; *Willd.* 183.
Aconitum caule simplici, *n.* 1197. *Hall Hist.* ii. 1235.
FOREIGN.—*Aconit, Chaperon et Moine*, Fr.; *Napello*, Ital.; *Aconito*, Span.; *Blauer-stramhut*, Ger.

This species of Aconite, (which has frequently been mistaken for the A. *neomontanum*, so strongly recommended by Baron Störck,) is one of our most active vegetable poisons, and is still retained in the London and Edinburgh Pharmacopœias. It is very generally cultivated in gardens as an ornamental plant; but grows spontaneously in the alpine forests of Sweden, France, Switzerland, Austria, Carniola, and other parts of Europe. It flowers in May and June.

The root is simple, or fusiform, and woody. The stem is erect, simple, clothed with leaves, rises to the height of two or three feet, and is terminated by an elegant cylindrical spike of flowers. The leaves are palmated and divided into five wedge-shaped segments; these are deeply cut and toothed, and stand alternately upon long-channelled footstalks, which become gradually

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shorter as they approach the top of the stem, so that the upper leaves are nearly sessile; the whole are dark green above, paler underneath, smooth and shining. The flowers, which are of a deep violet colour, proceed alternately on the spikes, and are supported upon short axillary pedicels. There is no calyx; but two small stipulæ are placed on the flower-stalk, at a short distance from the flower. The petals are five; the uppermost helmet-shaped covering the nectaries; the lateral ones broad, roundish; the lower oblong, and bending downwards. The nectaries are two, concealed under the upper petals; each nectary is furnished with a hooked spur, with the lip lanceolate and bifid. The stamens are filiform, converging, purple at the upper part, and supporting whitish anthers. The germens are from three to five, with simple reflected stigmas. The capsules, which correspond in number with those of the germens, contain numerous angular-wrinkled seeds. Fig. *(a)* represents the stamens; *(b)* the pistil; *(c)* the two recurved nectaries.

There are two or three varieties with white, rose-coloured, and variegated corollas. Those with blue flowers are said to be the most powerful. The variety called *pyramidale* is most commonly cultivated in English gardens, on account of the appearance of its long spike of flowers, which are sometimes above two feet long. The Aconitum *Cammarum*, is sometimes confounded with the present species, but the flowers are of a paler blue, the helmet much longer, and the plant is much taller; frequently attaining the height of six feet.

The etymology of the generic name, *Aconitum*, is involved in considerable obscurity. Some have deduced it from Acone, a city of Bithnia, where it grew in great abundance; but the most probable derivation, according to Prof. Martyn, is from ακονιτος, *pulveris expers*, without dust; because the plant grows on rocks destitute of soil, agreeably to the description of Ovid:

> "Quæ quia nascuntur dura vivacia cautè,
> Agrestes *Aconita* vocant."

Pliny says: "Aconitum nascitur in nudis cautibus quas Aconas nominent; et ideo Aconitum aliqui dixêre, nullo juxta ne pulvere quidem nutriente. Hanc aliqui rationem nominis attulêre."

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Its poisonous effects were well known to the ancients, who regarded it as the most violent of all poisons, and fabled it to be the invention of Hecate, who caused it to spring from the foam of Cerberus.

Qualities.—Although the root is the most powerful, every part of the plant is poisonous, for on chewing a small quantity of the leaves, a sensation of numbness will be felt in the lips and tongue, which continues for some hours. Should a larger quantity be used, a pungent heat in the palate and fauces will be felt, which will be succeeded by general tremors.

The taste is moderately bitter; the odour faint and narcotic. The active principle is an alkali, and discovered by Brandes, who has named it *aconita*. The deleterious and acrimonious qualities of the plant are nearly lost by drying; and alcohol and water extract its virtues very imperfectly.

Symptoms.—The aconite is one of that class of poisons which acts through the medium of the nervous system, and can produce death without being absorbed. When taken in an overdose the following symptoms quickly ensue: viz. intense heat, and numbness of the throat and mouth, violent nausea, giddiness, convulsions, violent purgings, mania, and cold sweats; which terminate in death.

It appears that M. Bichat was the first who ascertained, that "the brain is not directly necessary to the action of the heart, and that when the functions of the brain are destroyed, the heart continues to contract for some time afterwards, and then ceases, only, in consequence of the suspension of respiration, which is under the influence of the brain." To prove these assertions, Mr. Brodie, in the true spirit of philosophical research, instituted a series of experiments, with different vegetable poisons, amongst which is *aconite*, and has established the truth of these important views.

"An ounce of the juice of the leaves of Aconite was injected into the rectum of a cat. Three minutes afterwards he voided what appeared to be nearly the whole of the injection; he then stood for some minutes perfectly motionless, with his legs drawn together; at the end of nine minutes from the time of the injection, he retched and vomited; then attempted to walk, but faltered and fell at every step,

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as if from giddiness. At the end of thirteen minutes he lay on his side insensible, motionless, except some slight convulsive motions of the limbs; the respiration became slow and laboured; and at forty-seven minutes from the time of the injection he was apparently dead. One minute and a half afterwards the heart was found contracting regularly, one hundred times a minute.

"It appears from this experiment, that the juice of Aconite, when injected into the intestines, occasions death by destroying the functions of the brain. From the analogy of other poisons it is rendered probable that it acts on the brain, through the medium of the nerves, without being absorbed into the circulation. This opinion is confirmed by the following circumstance: if a small quantity of the leaf of Aconite is chewed, it occasions a remarkable sense of numbness of the lips and gums, which does not subside for two or three hours.

"I made a wound in the side of a young rabbit, and introduced, between the skin and muscles, about twenty drops of the juice of Aconite. Twenty-three minutes afterwards he was affected with symptoms in all essential respects similar to those which occurred in the experiment already related, where the juice was injected into the rectum; and at the end of forty-seven minutes from the application of the poison he was apparently dead. Two minutes after apparent death, the heart was found contracting, but very feebly.*

It is asserted, that the effluvia arising from the herb in full flower, has so overpowered some persons as to produce loss of sight for a day or two; attended by faintings and other untoward symptoms: and the juice, according to Snodder,† applied to a wounded finger, affected the whole system; not only producing pains in the hand and arm, but cardialgia, great anxiety, sense of suffocation, syncope, &c. The wounded part sphacelated also, prior to suppuration taking place.

"The root was given by way of experiment to four criminals; two at Rome, in 1524; and two at Prague, 1561. Two out of the four soon perished, and the others recovered with great difficulty. Matthiolus states, that a criminal was put to death by a drachm of it: and Dodonæus narrates the cases of five persons, who ate some of it by mistake, at Antwerp, and all died. Dr. Turner also mentions, that several Frenchmen, at the same place, partook of the shoots of the plant, mistaking it for masterwort, and that all died in the course of two days, excepting two players, who quickly evacuated all they had taken, by vomiting.

A person having eaten some of the leaves of the A. *napellus*, became maniacal, and the surgeon who was called to his assistance declared, that the plant was not the cause of his disorder; and to

* Phil. Trans. 1811, fol. 186 and 194.

† Vide Albert. Jurisp. Med. t. 6, p. 724.

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convince the company that it was perfectly innocent, he eat freely of its leaves, and soon after died in great agony."—(Mordus in K. Vet. Acad. 1739, p. 41.)

"John Crumpler, at eight in the evening, ate some salad, in which had been put by mistake a certain quantity of A. *napellus*. He felt immediately a burning heat on the tongue and gums, and a great irritation in the cheeks. He thought that the blood no longer circulated in his limbs; he had however no inclination to vomit. Perceiving the symptoms to increase, he drank about a pint of oil, and a great quantity of tea, which produced vomiting. The symptoms far from disappearing were aggravated. At ten o'clock, Vincent Bacon, a surgeon, was called in, and found him in bed, with his eyes and teeth fixed, his hands and feet cold, the body, for the most part, covered with a cold perspiration, the pulse scarcely perceptible, and the breathing so short, that it could with difficulty be perceived. He made him swallow two spoonsful of spirit of hartshorn, which occasioned coughing and vomiting: he then administered an infusion of *Carduus Benedictus*, until several vomitings were procured. The patient shortly had a stool, and vomited afresh. The pulse became a little raised, but was intermitting, and extremely irregular. Some stimulating medicines were given; the next morning he was a great deal better, and the cure soon completed." *

Dissection throws no light on the effects of Aconite.

Besides the A. *napellus* and *neomontanum*, it appears from well-attested accounts that the A. *Cammarum* and A. *Anthora* are also poisonous, and according to Bauhine, even the A. *Lycoctonum*, has produced unpleasant symptoms.

Treatment.—The plan of treatment is the same as that recommended under the article "*Belladonna*." Bleeding has been advised, but it should never be resorted to, till the pulse becomes full, or apoplectic symptoms supervene.

Medical Properties and Uses.—It is to Baron Störck † that we are principally indebted for our knowledge of this powerful remedy; which, according to his account, is diuretic, as well as diaphoretic, and narcotic. He administered it for intermittent fevers, chronic rheumatism, gout, exostosis, paralysis and scirrhus, and narrates many well-marked cases of these diseases, in which it was eminently successful. He appears to

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* *Phil. Trans.* 1737, *p.* 287.

† See Störck's "*Libellus quo demonstratur Stramonium, Hyoscyamum, Aconitum, non solum tuto posse exhiberi usu interno hominibus, verum et ea esse remedia in multis morbis maxime salutifera.*" 1762.

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have been well acquainted with the potency of the drug he was administering; and therefore recommended small doses to be given at first, which were very gradually increased.* His observations led to its employment in other diseases, and it has been found useful in amaurosis, scrofula, venereal nodes, &c.; but in consequence of its uncertain powers, alarming symptoms have been produced, which have caused it to fall into general neglect. Dr. Davy, however, in a letter to Dr. Paris, says: "In some cases of chronic rheumatism, and in some of intermittent fever, complicated with visceral disease, it (the extract) has had a beneficial effect not to be mistaken; the dose has been from one to two grains." Its diaphoretic effect he did not observe. We have had no experience of the internal administration of Aconite, but the extract applied as a plaster, in the same form as that we have already recommended for Belladonna, is a very useful application to rheumatic affections. It is usual to combine either the powder, or the extract, with some antimonial preparations, calomel, camphor, ipecacuanha, guaiacum, &c. The extract is most certain in its effects; and, as well as the powder, must be given in small doses at first.

DOSES.—Of the extract, from half a grain to two.
Of the powder, from two to ten grains.

OFF. PREP.—Extractum Aconiti. *L. E.*

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* Si vero mali nihil superveniat, lenta et prudenti manu augenda est dosis, donec optatus observetur effectus; dein autem augere amplius dosim non est necesse, quamdiu idem effectus continuat.

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Pl. 29

Viola odorata.

W. Clark del. et Sculp.

London, Published by John Churchill, Princes Street, Soho, Aug.st 1877.

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VIOLA ODORATA.

Sweet Violet.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.
Nat. Ord. CAMPANACEÆ, *Lin.* CISTI, *Juss.*

GEN. CHAR. *Calyx* 5-cleft. *Corolla* 5-petalled, irregular, the upper petal spurred at the base. *Anthers* cohering. *Capsule* 3-valved, 1-celled.

SPEC. CHAR. *Stem* none. *Scyons* creeping. *Leaves* cordate, smooth, as well as the footstalks. *Calyx* obtuse.

β alba. With white, or reddish flowers.

Syn.—Viola martia purpurea, *Raii. Syn.* 364. *Bauh. Hist. v.* 3. 542. *f.*
Viola nigra, sive purpurea, *Ger. Em.* 850. *f.*
Viola n. 558. *Hall. Hist. v.* 1. 240.
Viola odorata, *Lin. Sp. Pl.* 1324. *Willd. v.* 1. 1162. *Fl. Brit.* 245. *Eng. Bot. v.* 9. *t.* 619. *Curt. Fl. Lond. fasc.* 1. *t.* 63. *Stokes Bot. Mat. Med. v.* 2. 440. *Hook. Scot,* 77.
FOREIGN.—*Violette odorante,* Fr.; *Viola Mammola,* Ital.; *Violeta,* Span.; *Blaue veilchen,* Ger.; *Pachutschaja fialk,* Russ.; *Kiet tuong hoa,* Chin.

THE subject of this article is a common indigenous plant, growing in most parts of our island, and universally esteemed for the beauty of its flowers, and the sweetness of their scent. It is most frequently found in woods, and moist banks; but a variety, with double flowers, is chiefly cultivated for medicinal purposes.

The plant has no stem, but it increases by runners, which throw out many fibrous radicles, and sends up leaves in tufts. The leaves are heart-shaped, serrated, smoothed above, somewhat wrinkled, petioled, and of a dark green colour. The flowers which appear in March, stand upon smooth channelled

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foot-stalks, taller than the leaves, bearing above their middle a pair of small lanceolate bracteas. The calyx consists of five oblong acute leaves. The flowers are drooping, deep purplish blue, and pale in the mouth; the corolla consists of five unequal petals; the two lateral ones are opposite and bearded near the base, the posterior is slightly keeled and has a horned nectarium; the stamens are five, nearly sessile, and terminate in a membranous expansion that covers the upper part of the germen, which is roundish, with a falcated pistil.—Fig. *(a)* represents the calyx and pistil; *(b)* the anthers and nectaries.

The violet is a native of every part of Europe, and Desfontaines says, that it is common in Barbary, in the palm groves, where the blue and white grow promiscuously, and flower in the winter. Hasselquist found it in Palestine and Japan, and Laureiro saw it in China, near Canton. It has always been a favourite with poets; and were we to indulge in quotations, we could fill several pages with their inspirations. We shall merely make one or two extracts:

"There was a mark on Laïs' swan-like breast,
(A purple flower with its leaf of green,)
Like that the Italian saw when on the rest
He stole of the unconscious Imogene,*
And bore away the dark fallacious test
Of what was not, although it might have been,
And much perplexed Leonatus Posthumus;
In truth, it might have puzzled one of us.

"The king told Gyges of the purple flower;
(It chanced to be the flower the boy liked most;)
It has a scent as though love, for its dower,
Had on it all his odorous arrows tost;
For though the rose has more perfuming power,
The violet (haply 'cause 'tis almost lost,
And takes us much more trouble to discover,
Stands first with most, but always with a lover."

BARRY CORNWALL.

———— "Where to pry aloof,
Atween the pillars of the sylvan roof,
Would be to find where violet beds were nestling,
And where the bee with cowslip-bells was wrestling.

* That flower, however, was a cowslip.

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" Gay villagers upon a morn of May,
When they have tired their gentle limbs with play,
And formed a snowy circle on the grass,
And placed in midst of all that lovely lass
Who chosen is their queen:—with her fine head
Crowned with flowers, purple, white, and red;
For there the lily and the musk-rose sighing,
Are emblems true of hapless lovers dying:
Between her breasts, that never yet felt trouble,
A bunch of violets, full-blown, and double,
Serenely sleep."

KEATS.

OVID refers to its vulnerary properties:

" Ut si quis violas, riguove papaver in horto,
Liliaque infringat, fulvis hærentia virgis."

Lib. x. v. 190.

QUALITIES AND CHEMICAL PROPERTIES.—The odour of violets is particularly pleasant, but they are somewhat bitter to the taste. They yield their colour and flavour to boiling water. At a sitting of the Académie Royale de Médicine, M. Boullay read a paper on the analysis of the violet, *viola odorata*, from which it appears that it contains an active alkaline principle, which is bitter and acrid, similar to the *emetine* of Ipecacuanha, * and which he proposes to name, *Emetine of the violet, indigenous emetine*, or *violine*. According to M. Orfila, it is energetically poisonous. It is found to reside equally in the root, leaves, flowers, and seeds of the plants; but associated with different proximate principles, so as to have its action on the animal system modified. It is procured in the same manner as that from Ipecacuanha, and possesses the same properties, excepting its being united to the *malic* acid, instead of the *gallic*. (*Journal de Pharmacie. Jan.* 1824.)

MEDICAL PROPERTIES AND USES.—It is said, that the sherbet that is most esteemed by the Turks, and which is drank by the Grand Signor himself, is made of violets and sugar. The petals were formerly used as a laxative, one drachm of which,

* For the method of procuring Emetine, vide Magendie's Formulary, by Haden, fol. 60.

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in powder, operates pretty freely; and two ounces of the root, infused in water, both purges and vomits. The syrup is not now used medicinally, but as well as an aqueous tincture of the flowers, is a useful chemical test; uncombined acids changing the blue colour to a red, and alkalies to a green.

OFF. PREP.—Syrupus Violæ. E. D.

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Cassia Senna.

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XXX

CASSIA SENNA.

Senna, or Egyptian Cassia.

Class X. DECANDRIA.—*Order* I. MONOGYNIA.
Nat. Ord. LOMENTACEÆ, *Lin.* LEGUMINOSÆ, *Juss.*

GEN. CHAR. *Calyx* 5-leaved. *Petals* 5. *Anthers* three, superior, barren; the 3 lower ones beaked.

SPEC. CHAR. Leaflets in five or six pairs, lanceolate, equal; a gland above the base of the petioles.

Syn.—Senna Alexandrina, *Rafi Hist.* 1742; *Bauh. Pin.* 397; *Moris. Hist.* 2. 201. *f.* 2. *t.* 24; *Dod. Pempt.* 361.
Senna Officinalis, *Gærtn. de Fruct.* ii. 312. *t.* 146.
Cassia Lanceolata, *Lam.* 22. *Forskal Egypt.* 85. *n.* 58.
Cassia Senna, *Lin. Sp. Pl.* 9. *Willd.* ii. 513. *Stokes Bot. Mat. Med.* ii. 457.
FOREIGN.—*Senè*, Fr.; *Senna*, Ital.; *Sennabläter*, Ger.; *Senâ*, Arab.; *Senâ Mecci*, Hind. *Sana pat*, Beng.; *Nilavérei*, Tam.

THIS plant, which furnishes the leaves known in commerce under the name of Senna, is a low annual, growing spontaneously in Syria, Arabia, and Upper Egypt, whence it is imported into Europe chiefly from Alexandria; hence it has obtained the name of Alexandrian Senna. It is cultivated in Italy, the West Indies, and some other parts of the world. According to Burckhard, the best grows in the valleys of Nubia, where it is called *Abyreygia;* flowering in July and August.

Senna rises with a somewhat woody, erect, branching stem, to the height of about two feet. The leaves are alternate, smooth, flat, doubly pinnated, and furnished at their base with two narrow pointed stipules; each leaf is composed of five or six pair of oval, entire, pointed, sessile leaflets, about an inch long, and one fourth of an inch broad, of a firm texture, and bright yellowish green colour. The flowers are pale yellow, borne in loose axil-

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lary racemes, on the upper part of the stem. The calyx is monophyllous, five-toothed; the teeth are obtuse, concave, and deciduous. The corolla consists of five roundish, entire, concave petals, the three lower ones largest; the filaments are ten, the three inferior ones longer than the others, and furnished with large curved anthers: the germen is cylindrical, supporting a short incurved style, and an obtuse stigma. The fruit is described by Gærtner as an ovate kidney-shaped membranous legume, with foliaceous appendages, marked with capillary, transverse, parallel striæ, bivalve, with six or nine cells, and divided by very thin transverse partitions, each containing one oblong heart-shaped seed. Fig. *(a)* represents a petal; *(b)* a seed.

The purgative qualities of Senna were known to the Arabian physicians, Serapion and Mesue, who flourished about the beginning of the ninth century, and used it as a medicine. Actuarius, a Greek physician, who lived in the thirteenth century, also notices it, but like Mesue, employed the pod, not the leaves. A variety, the *Senna Italica*, or blunt-leaved Senna, has been cultivated in the south of France, but is less purgative. In large doses, it has been employed by Dr. Wright of Jamaica, at which island it grows on the banks of the sea.

Senna has been grown in England, but as it is an annual, its seeds must be sown in the early part of the spring on a hot-bed; "and when the plants are fit to remove, each must be placed in a separate pot, filled with light earth, and plunged into a moderate hot-bed, where they should be shaded till they have taken fresh root; after which they should have fresh air admitted to them, every day in proportion to the warmth of the season, and should be frequently watered. When the plants have filled the pots with their roots, they should be shifted into larger; and if they be too tall to remain in the hot-bed, they must be placed either in the stove, or a glass case, where they may be defended from the cold, but in warm weather have plenty of air. It is very rare that it perfects its seeds in England."

In our English market, three sorts of Senna are met with, viz.—the Alexandrian, Tripolian, and East Indian. The two former are very much alike in appearance, but the Alexandrian

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has the most aromatic and grateful odour, and possesses greater purgative powers. The East Indian has a leaf as long again as either of the other two, and according to Dr. Ainslie, " is a product of Arabia Felix, (about Mocho,) or from a more northern part of that country, the territory of Orbuarish. It is, in fact, the sharp-pointed leaved Senna, the *cassia* lanceolata of Forskál, which he distinguishes, *foliis 5-jugis, lanceolatis, æqualibus,* and tells us, is common at Surdud, and near Mor. The Senna in common use amongst the Indian practitioners is the *blunt-leaved,* (Senna Italica. S. foliis obtusis. Bauh. Pin. 397.) It is a common plant on the Coromandel coast, but is not near so valuable a medicine as the sharp-pointed Senna.

Most of the Senna used in England is the produce of Egpyt, the best sort called in Nubia, *guebelly,* where it grows wild."*

Bartholin asserts, that the leaves of Colutea *arborescens,* (common bladder Senna,) which is cultivated in this country as an ornamental plant, may be substituted for those of senna.

According to Deslongchamps, in his " Manuel des Plantes Usuelles Indigenes," p. 30 of the 2d Memoir, vol. ii. there are six different plants which might be substituted for Senna; viz.— Globularia *alypum;* Anagyris *fœtida;* three species of Daphne; and the Cneorum *tricoccon;* the best of which seems to be the first; three drachms of the leaves producing ten evacuations. The last, which is indigenous to America, is stated by Barton to be equal in its effects to the Alexandrian Senna.

M. Nectoux, quoted by Dr. Barton† entertains the opinion, that authors have hitherto been mistaken in the opinion, that the senna of the shops is the produce of the Cassia Senna of Linnæus. His investigations led him to believe, that " the true Senna is in reality a weed, with which the real Senna is adulterated in Egypt, to augment the quantity produced by the annual growth of the other two plants, which constitute the Senna."

" Nubia is a narrow valley through which the Nile flows. The view is confined on the two sides, alternately, by a lofty chain of granitic

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* Materia Indica.
† Materia Medica of the United States.

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mountains. Senna and arguel are the chief productions of this country. They are not the objects of particular cultivation, but grow naturally on the sides of the hills and in the ravines. Each person has the privilege of gathering what grows in his district. Two crops are annually made, the productiveness of which depends on the duration of the rains which fall periodically every year. The first and most fruitful is gathered at the termination of the rains, which commence at the summer solstice, and end in August and the beginning of September. The second crop is gathered in April, and is small. No expense attends the preparation of these plants, which consists in cutting and spreading them on the rocks to dry. This process in that warm climate only occupies a single day. The senna and arguel are put up in small bales, weighing about a quintal each, and are conveyed by camels to Sienne and Darao. They are sold for 300 to 340 parats (eleven or twelve francs) each. They are afterwards carried to the farmer general, at Cairo, who purchases them at eleven or twelve pataques (thirty to thirty-three francs) and sold by him to the European factors for thirty or thirty-three pataques (one hundred and six francs) the quintal. Mr. Nectoux was informed on good authority, that the produce of the two crops varies annually, from seven to eleven hundred quintals; one-third of which is arguel. The demand from Europe is generally from fourteen to fifteen hundred quintals; and never less than twelve. The Egyptian merchants therefore mix from three to four hundred quintals of the *sena-belledy*, or wild senna (cassia senna of Linnæus) with that brought from Nubia. This adulteration is made at the *entrepots* of Kene, D'Esnech, Darao, and Sienne; around which places the senna-belledy grows abundantly. Mr. Nectoux concludes by inviting the attention of his government to the introduction and culture of sena (*cassia lanceolata* of Lanark), and arguel (*cynanchum oleæfolium* of Nectoux), in its colonies, with the view to avoid this adulteration.

Qualities and Chemical Properties.—The leaves of Senna have a faint and sickly odour, and to the taste are at first sweetish, and afterwards nauseous and bitter. It appears that when cultivated in the south of France, this bitter principle is lost, and although destitute itself of purgative properties, its absence renders the leaves less aperient; and as the pods, the part used by the Arabian physicians, contain only the purgative principle, they are comparatively feeble, unless the defect be compensated by art. Dr. Cullen has observed, that a much smaller quantity of the leaves is required for a dose if they be infused in company with some bitter plant; and it has been found that the watery infusion of *rhubarb* is rendered more purgative by the addition of *calumba*. The infusion is of a dark

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reddish brown colour, and on exposure to the air, the extractive matter which it contains, becomes oxidated; it is therefore apt to gripe, unless combined with aromatics and soluble tartar, or other neutral salts. Some affirm that a pint of boiling water only takes up the active matter of one ounce of the leaves; but if three ounces be used, and submitted first to expression and afterwards to infusion, it will be found that their virtues are gone. Besides extractive, resin, mucilage, saline matters, and a bitter element, which senna contains, M. M. Lassaigne and H. Fenuelle have separated the purgative principle, to which they have given the name of *Cathartine*. A decoction of the leaves was made, and after being filtered, was precipitated by acetate of lead. The precipitate collected was diffused through water, and sulphurated hydrogen passed through it. The liquor filtered was evaporated to dryness, and digested in alcohol, and the alcoholic solution then evaporated to dryness. It contained acetate of potass, which was separated by alcohol acidulated by sulphuric acid; then filtering to separate the sulphate of potass insoluble in this fluid; precipitating the excess of sulphuric acid by acetate of lead; decomposing this latter salt by sulphurated hydrogen; filtering again, and evaporating to dryness, a substance was obtained, which was considered the purgative principle of Senna. This substance is uncrystallizable, of a yellow reddish colour; of a particular smell; and of a bitter nauseous taste. It is soluble in alcohol and water in all proportions; insoluble in æther. It becomes moist in the air; and purges in very small doses.†

Precipitates are produced from the infusion of Senna, by the strong acids, the alkaline carbonates, lime water, solutions of nitrate of silver, oxymuriate of mercury, superacetate of lead, tartarized antimony, and infusion of yellow bark: which are therefore *incompatibles*.‡

Medical Properties and Uses.—Senna is an active purgative, and as its operation can generally be relied on, is frequently administered in the form of infusion, combined either

* Annales de Chimie, xvi. p.20.

‡ Thompson.

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with manna or tamarinds, soluble tartar, Epsom salts, &c. Dr. Cullen recommends coriander seeds, and Dr. Paris *Bohea tea*, to cover its nauseous taste; and guaiacum is said to increase its powers. It is very apt to gripe, and is therefore contra-indicated when the bowels are subject to spasmodic pains. The lenitive electuary (confectio sennæ) is an elegant and agreeable laxative, and is usually recommended for habitual costiveness, and to pregnant females. We have lately had our attention excited to a preparation, manufactured by Mr. Bass, Chemist, of New Bond-street; it is a concentrated essence, made, we understand, without a high temperature being applied: and one drachm to an ounce of water, will form a mixture of Senna equal in strength to the infusion which is usually prescribed. When it is considered that the infusion will not keep many hours without precipitating an oxidized extractive, and that it is often wanted at a minute's notice, we think that our readers will be thankful for our apprising them of so valuable a preparation, which after several trials we have ascertained to be worthy of reliance.

OFF. PREP.—Tinctura Senna. *L. E. D.**
Confectio Sennæ. *L. E. D.*
Extractum Cassiæ Sennæ. *E.*
Infusum Sennæ. *L. D.*
Infusum Tamarindi cum Senna. *E. D.*
Pulvis Sennæ compositus. *L.*
Tinctura Sennæ composita. *E.*
Syrupus Sennæ. *D.*

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* As this tincture is a domestic remedy known by the name of Daffy's Elixir, we subjoin the method of preparing it:

"Take of Senna leaves, three ounces; Carraway seeds bruised, three drachms; Cardamom seeds bruised, a drachm; Raisins stoned, four ounces; proof spirit, two pints. Macerate for fourteen days in a gentle heat, and strain."

It is a good stomachic and purgative, and is efficacious in flatulent cholic, atonic gout, and as an opening medicine for those whose bowels have been weakened by intemperance.

DOSE.—From a quarter of an ounce to one ounce.

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Papaver Rhoeas.

London, Published by John Marshall, Leicester Square, [illegible]

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PAPAVER RHŒAS.

Red Poppy.

Class XIII. POLYANDRIA.—*Order* I. MONOGYNIA.
Nat. Ord. RHŒADEÆ, *Lin.* PAPAVERACEÆ, *Juss.*

GEN. CHAR. *Calyx* 2-leaved. *Petals* 4. *Capsule* superior, 1-celled, opening by pores under the persistent stigma.

** *Capsules smooth.*

SPEC. CHAR. *Capsules* smooth, nearly globular. *Stem* many-flowered, bristly; bristles all spreading. *Leaves* pinnatifid.

Syn.—Papaver laciniato folio, capitulo hispido longiore, *Raii Syn.* 308.
Papaver erraticum, *Camer. Epit.* 371, 1; *Matth. Valgr. v.* 2. 404. *f.*
Papaver, n. 1064. *Hall. Nomencl.* 95. *Hist. v.* 2. 16.
Papaver Rhœas, *Lin. Sp. Pl.* 726. *Willd. v.* 2. 1146. *Fl. Brit.* 567; *Eng. Bot. v.* 9. *t.* 645; *Curt. Lond. fasc.* 3. *t.* 32; Stokes *Bot. Mat. Med. v.* 3. 192; *Hook. Scot.* 168.
PROVINCIALLY.—*Corn Poppy; Corn Rose; Cop Rose.*
FOREIGN.—*Coquelicot*, Fr.; *Papavero salvatico*, Ital.; *Adormidera sylvestre, Amapola*, Span.; *Die blumen der klapprose*, Ger.

THE Red Poppy is an indigenous annual, growing plentifully in corn-fields, where it frequently proves a very troublesome weed; flowering in June and July. Its geographical distribution is extensive; but it is said not to occur in America.

The stem is herbaceous, upright, branched at top, a foot or more in height, and clothed, as well as the flower-stalks, with strong hairs which spread horizontally. The leaves are sessile, pinnate, or bi-pinnatifid, serrated, and covered with short hairs The flowers are large, solitary, and stand upon long hairy foot-stalks; the calyx consists of two ovate, hairy, concave leaves, which fall before the flowers expand; the petals are four, large, roundish, undulated, of a deep rich scarlet colour, and generally

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marked with a black spot at the base. The germen, which becomes a smooth, urn-shaped capsule, is ovate and large, without any style; the stigma is shield-shaped, sessile, scolloped on the edges, and having ten or twelve rays. The fruit is a capsule, crowned with the stigma, divided into many cells, and containing numerous kidney-shaped seeds. Fig. *(a)* represents a single stamen; *(b)* the capsule.

This species of Papaver is readily distinguished from the *Papaver dubium*, which it closely resembles, by the hairs spreading horizontally on the flower-stalks as well as on the stem, and by the short roundish capsule.

Like most other pretty flowers, the Red Poppy has been celebrated by poets in different ways; thus, from their flowering amongst the corn, they have been supposed, by one, to be upon the look out for Ceres:

> "And the poppies red,
> On their wistful bed,
> Turn up their dark blue eyes for thee."

In a Latin poem, by Mr. Landor, Ceres is supposed to have created the Poppy to assuage her anguish during the search for her daughter; and the statues of the goddess are generally adorned with Red Poppies, from their being companions of wheat: but

> —— Poppies nodding, mock the hope of toil.
> *Crabbe's Village.*

Qualities and Uses.—The petals of the Red Poppy should be gathered just as they begin to blow. They possess a faint narcotic odour, and are generally thought to have a slightly sedative effect. They yield their virtues to boiling water, but are merely used for their fine colouring matter. A syrup of them is directed in the Pharmacopœias, which was formerly prescribed in coughs and catarrhal complaints; but no faith whatever is now placed in its medicinal powers. Opium has been obtained from the capsules, but in so small a quantity, as to render it an object unworthy of the trouble.

Off. Prep.—Syrupus Rhœados. L. D.

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Acorus Calamus.

W. Clark del. et Sculp.

London, Published by John Churchill, Lancaster Square, Aug. 1837

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ACORUS CALAMUS.

Common Sweet Flag.

Class VI. HEXANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. PIPERITÆ, *Lin.* AROIDEÆ, *Juss.*

GEN. CHAR. *Spadix* cylindrical, covered with sessile florets. *Petals* 6, naked. *Style* 0. *Capsule* 3-celled.

SPEC. CHAR. Flower-stalk rising high above the spadix.

Syn.—Acorus verus, sive Calamus officinarum, *Raii. Syn.* 437; *Park.* 140.
Acorus versus officinis, falso Calamus, *Ger. Em.* 62. *f.*
Acorus, *n.* 1307. *Hall. Hist. v.* 2. 164.
Acorus undulatus, *Stokes Bot. Mat, Med.* 2, 282.
Acorus Calamus, *Lin. Sp. Pl.* 462; *Willd. v.* 2. 199.; *Fl. Brit.* 373.; *Eng. Bot. v.* 5. *t.* 356.; *Bart. Veg. Mat. Med. v.* 2. *t.* 30. *p.* 63.
Typha aromatica, clava rugosa, *Moris. v.* 3. 246. *t.* 13. *f.* 4.
ENGLISH.—*Common Sweet Rush, European Sweet-Rush, Sweet-smelling Flag, Myrtle-flag, Sweet Myrtle-grass,* or *Calamus Aromaticus.*
FOREIGN.—*Acorus odorant,* Fr.; *Calamo aromatico,* Ital.; *Acoro Calamo,* Span.; *Kalmus wurtzil,* Ger.; *Bach,* Hind.; *Vacha,* San.

The Acorus *Calamus,* or sweet-scented flag, a plant which bears a considerable resemblance to the Iris *Pseud-Acorus,* or common yellow Water Flag, is a well-known aromatic. It is a native of England, and many parts of Europe, Asia, and America, growing naturally in shallow waters, and on the banks of rivers; flowering in June. In this country it is not

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very common. Our figure was taken from a specimen in the Earl of Mansfield's park at Highgate, where it grows in profusion by the side of the reservoir, which supplies part of the northern suburbs of the metropolis with water. We observed it sparingly in a pond in Copenhagen fields; and also on Wimbledon common. It is remarkable, that this plant is unknown in Scotland.

The root, which spreads horizontally, is long, about an inch thick, spongy, full of rings or joints arising from the decay of former leaves, somewhat compressed, externally of a greenish white colour, which changes in drying into a yellowish brown, internally white, with many long *radicles*, which spring from the under side. From the joints, and from the point between the lateral union of the roots, bunches of blackish fibres are always found when the plant has grown in its natural wet situations. The leaves are two or three feet high, sword-shaped, pointed like those of the common Iris, sheathing, and of a pale yellowish green colour; they spring directly from the root, are usually waved on one of the edges near the top, and emit, when bruised, a strong aromatic odour. The flowers are tesselately arranged on a spadix, issuing laterally about a foot above the ground, from the middle of a naked stalk or scape, which rises beyond it, and having the appearance of a leaf. The spadix is solitary, two or three inches long, cylindrical, and attenuated at its apex and base. It is crowded with numerous small pale green flowers, consisting of six equal concave petals, without any calyx, and stamens varying in number, which have thick filaments, alternate with the petals, and double anthers. The germen is elliptical, without any style, and crowned by an obscurely 3-lobed stigma. The capsule is triangular, membranous, of three cells, and containing many seeds. Fig. *(a)* represents a perfect flower; *(b)* a stamen; *(c)* the pistil and germen.

Only two species of Acorus are described, viz. the subject of this article, and the A. *gramineus*, which is cultivated in China. Of the A. *Calamus*, authors describe two varieties, the *vulgaris*, European sweet-rush, sweet-smelling flag, or Calamus

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aromaticus, which is also indigenous to America; and the *verus*, seu Asiaticus, Indian sweet-rush, or Calamus aromaticus, which not only grows in marshy ditches, but in more elevated and dry places in Malabar, Ceylon, Amboyna, and other parts of the East Indies; it is said to differ little from the European, except in being a little more tender and narrow, and of a more hot and pungent taste.*

PROPAGATION AND CULTURE.—According to Miller the Sweet Flag will succeed very well in a garden; but never produces its spikes unless it grows in the water. It delights in an open situation, and does not thrive in the shade. When the plant is fixed in a proper situation, it will multiply by its creeping roots fast enough.

QUALITIES.—The root has a warm aromatic odour, and a pungent, bitter, aromatic taste. "In the dried state the article is corrugated, of a yellowish brown colour, with many white elevated circles on the under side, whence the radical fibres issued. It breaks with a short rough fracture; is internally of a pale buff colour, and a spongy texture; both the smell and taste are improved by exsiccation."† It contains an essential oil, to which it owes its peculiar taste, and the aromatic flavour that it yields to those infusions, of which it is an ingredient; for the residium after distillation has a nauseous flavour dissimilar to Calamus. Hoffman obtained two ounces of essential oil from fifty pounds of the root; but Neuman and Cartheuser obtained it in a larger quantity. It contains a considerable quantity of fecula, which is dissolved in the infusion, and may be copiously precipitated from it, by acetate, and superacetate of lead. Watery infusions of the root are strongly imbued with the odour, and have a warm bitter taste. Spirituous tinctures are more warm and pungent than aqueous infusions, but much less bitter, and have but little smell; and water applied after spirit, gains a considerable bitterness.‡ Hence it is evident, that water is the best menstruum. The roots were formerly brought from the Levant, but

* Barton's *Vegetable Materia Medica*, fol. 67.
† Thompson.
‡ Lewis, Mat. Med. p. 225, vol. 1.

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our indigenous plant affords them quite as good, and the medical properties of the European, American, and Asiatic varieties do not differ.

Economical Uses.—The leaves are noxious to insects, and no kind of cattle eat any part of the plant. It has been suggested therefore, that the leaves might be employed to destroy the larvæ and insects, which injure books and woollen cloths. The whole plant has been used by M. Bautroth for tanning leather; and it is supposed by Dr. Bohmer, that the French snuff, *a la violette*, receives its scent from this root. Throughout the United States, it is used by the country people, as an ingredient in making wine bitters.*

Medical Properties.—The roots only of this plant are used in medicine, and candied, are said to be taken by the Turks, as a prophylactic against contagion. Six drachms of the bruised root to twelve ounces of boiling water, form an elegant infusion, which is strongly impregnated with the odour of the plant, and possesses a moderately warm, and very bitter taste. This infusion is a most efficacious stomachic, and pity it is that a medicine growing so plentifully in our own country, should give place to exotic remedies of less value: "for it is successfully used in intermittents, even after bark has failed, and is certainly a very useful addition to Cinchona." Dr. Barton informs us, that the country people in America cure themselves of ague by a free use of the tincture, and asserts, that it has proved energetically beneficial in that distressing complaint to which sailors are so frequently subject from the nature of their life and diet, well known, particularly to naval surgeons, by the name of wind colic; given in hot decoctions in the manner of ginger-tea, it quickly relieves the distressing swelling of the abdomen. It may be chewed by dyspeptic persons, and the juice swallowed with advantage, when tonics are required; and as it excites a copious secretion of saliva it sometimes relieves the pain of tooth-ache.—The dose in substance is from ℈ i. to ʒ i.

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* Barton.

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Pl. 33.

Gratiola officinalis.

W. Clark del. et Sculp.

London. Published by John Churchill, Lancaster Square, Sept. 18[illegible]

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XXXIII

GRATIOLA OFFICINALIS.

Hedge Hyssop.

Class II. DIANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. PERSONATÆ, *Lin.* SCROPHULARIÆ, *Juss.*

GEN. CHAR. *Corolla* irregular, reversed. *Stamens* two, sterile. *Capsule* 2-celled. *Calyx* 7-leaved; the two exterior leaves spreading.

SPEC. CHAR. *Leaves* ovato-lanceolate, serrated, 5-ribbed, smooth, somewhat longer than the flower-stalks.

Syn.—Gratiola *Camer. Epit.* 464; *Ger. Em.* 581; *Rivin. mon. t.* 157.
Gratiola vulgaris, *Park. Theatr.* 220. 1; *Mor. Hist.* 2. 479. *n.* 7. *g.* 5. *t.* 8. *f.* 7.
Gratiola centauroides. *Vail. Paris.* 95; *Bauh. Pin.* 279.
Gratiola alpina, *Bauh. Hist.* 3. 435; *Raii. Hist.* 1885.
Digitalis minima, gratiola dicta, *Tourn. Paris.* 266. *Park.* 1. 229.
Gratiola officinalis, *Lin. Sp. Pl.* 24.; *Willd.* 1. 102; *Scop. Carn. n.* 27; *Fl. Dan. t.* 363; *Woodv.* 132. *t.* 47. *Stokes* 1. 34.
FOREIGN.—*Gratiole*, Fr.; *Graziola*, Ital.; *Gradenkraut*, Ger.

THIS species, the *Gratiola* of the Dispensatories, derives its generic appellation from the diminutive of *gratia*, grace or favour; and the epithet *gratia Dei*, by which it was formerly distinguished, is sufficiently expressive of the high estimation in which it was held by the ancients for its salutary qualities. It is a low perennial, a native of the south of Europe, growing in moist pastures, and flowering in June and July.

From a cylindrical, white, creeping, jointed root, rise several slender, smooth, round, erect stems, to the height of a foot or eighteen inches. The leaves are numerous, lanceolate, opposite, sessile, pointed, serrated towards the ends, of a bright green colour, two inches long, nearly half an inch broad, and obscurely punctured. The flowers are inodorous, about an inch long,

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axillary and solitary; the calyx consists of five elliptical pointed segments, with a pair of lanceolate spreading bracteas: the corolla is tubular, divided at the lip into four obtuse segments, the uppermost of which is broadest, emarginate and reflexed, the others straight and equal; the tube is yellowish, with reddish streaks; the limb pale lilac, or purple. The filaments are four, awl-shaped, shorter than the corolla, only two of which are furnished with anthers; the two perfect ones are shorter than the others, and are inserted at the base of the uppermost segment, about the middle of the tube of the corolla: the germen is ovate, superior, supporting a slender erect style, with a divided stigma. The capsule is ovate, bilocular, and contains numerous small seeds.—Fig. *(a)* represents a flower, spread to show the two fertile, and two abortive stamens; *(b)* the pistil.

Qualities and Chemical Properties.—It is inodorous, but impregnated with a bitter nauseous taste, which it is said sometimes produces a sense of constriction in the tongue. Marcgraaf states that its watery extract is bitter, but that the bitter principle exists most abundantly in the resinous extract. Vauquelin has analyzed it, and obtained a bitter, active, uncrystallizable, resinous principle, which is soluble in alcohol, and requires a very large quantity of boiling water to dissolve it. "When sulphuric acid is added to the unstrained infusion, it emits the odour of tamarinds; and when the infusion is filtered and slowly evaporated, spicular crystals are formed, which appear to be tartaric acid."

Poisonous Effects.—Given in over doses, it produces violent vomiting, and hypercatharsis; and M. Bouvin asserts that an injection of the decoction being administered to a female, produced great irritation of the sexual organs, and all the symptoms of the most violent nymphomania.

"At a quarter past ten, three drachms and a half of watery extract of Hedge-Hyssop, were introduced into the stomach of a small strong dog, and the œsophagus was tied. At eight in the evening, the animal had not exhibited any remarkable phenomenon. The next day, at ten in the morning, he uttered plaintive cries; he was lying down on the side, and expired an hour after: his breathing had not been impeded. The mucous membrane of the stomach exhibited, through-

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out its whole extent, a cherry-red colour: it was black wherever it forms the folds observed in the interior of this viscus; it was easy to be assured that this last alteration was the consequence of a certain quantity of black extravasated blood, within the space, which separates it from the subjacent muscular coat. This last was nearly in its natural state; the interior of the rectum was evidently inflamed: all the remaining portion of the alimentary canal was a little red. The lungs did not appear affected; there was no serosity in the ventricles of the brain: the exterior cerebral veins were distended with black blood. The pia mater was injected, and of a vermillion red colour.

"Twenty-eight grains of the same poisonous substance, dissolved in four drachms of water, were injected into the jugular vein of another robust dog of middle size. An hour after, the animal had a motion; he experienced some giddiness, and became as it were insensible, lay down, and expired two hours after the injection. It was impossible to discover the least trace of alteration in the texture of the digestive canal."

M. Orfila concludes from numerous experiments:—

"1st. That an extract of Hedge-Hyssop produces a local irritation extremely violent.

"2nd. That it appears not to be absorbed, and that its effects depend on the sympathetic lesion of the nervous system.

"3rd. That it is much more active when injected into the veins."

Medical Properties and Uses.—This medicine was formerly prescribed on the continent, as a hydragogue purgative, and diuretic; and Heurnius, Ettmuller, Hartmann, Joel, and others have administered it successfully for dropsy of the cellular tissue; likewise of the peritoneum when unaccompanied by inflammatory action, and unallied with flaccidity of the muscular fibre, or with paleness. It has likewise been given in some affections, as hypochondriasis, atonic gout, rheumatism, &c. which were accompanied, or appeared to be produced by inactivity or torpor of the intestinal canal; while others have administered its resinous part, in small doses, to promote vomiting, or as a substitute for ipecacuanha in dysentery. Dr. Kostrzewki, of Warsaw, has offered some remarkable instances of its powerful influence in soothing and suspending irritation; and asserts that three maniacs, in the hospital at Vienna, were recovered by its use; that the most confirmed cases of lues venerea were completely cured by it; and that it usually acted by increasing the urinary, cutaneous, and salivary secretions.* Dr. Perkins, of Coventry, states that it forms the basis of the

* Vide Dissert. de Gratiola. *Vienna*, 1775.

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Eau Medicinale, and that the recipe was given to him by the Count of Leiningen, who paid five hundred ducats for it. This nobleman was a person of extensive reading, and a munificent patron of the arts, and had been in early life a martyr to the gout; an exemption from which, for several years, he attributed to the use of this medicine. The following is the form:

" ℞ Herbæ gratiolæ officinalis siccatæ unciam
Radicis ejusdem Herbæ semunciam incisæ; et contusæ adde.
Vini Hispanici uncias sedecim.
Digere leni calore per dies octo, et cola."

" Of this vinous tincture, a tea-spoonful is taken at bed-time, drinking after it half-a-pint of beef tea; and if after lapse of twenty-four hours, all pain has not vanished, half a tea-spoonful more of the Gratiola wine is to be taken in a similar manner. Dr. Reece, who has paid particular attention to the preparation of this drug, and to its administration, very properly observes, that " a tea-spoonful is at all times a very indefinite measure, and liable to variation with fashion," and therefore recommends forty-five drops as the dose to begin with. This gentleman also remarks, " that in producing its effect of allaying irritation in gout and rheumatism, it was done without disturbing the system, or producing those effects on the general health, which attend the use of opium;" he has, therefore, with a laudable zeal, extended its use to allay morbid irritation of the intestines, and of the lungs; and has found that an oxymel made with the herb, is very efficacious in asthma, constitutional or winter cough, &c. He observes, that " in the use of the Gratiola, it must always be exhibited in the first instance so as to nauseate the stomach, or to produce an aperient effect on the bowels, and then kept as near to this dose, without producing any further unpleasant effect." According to Bergius, the dose of the herb in substance is from fifteen to thirty grains, but he states that a scruple often acts on the bowels, and produces nausea and vomiting. He also affirms that ten grains united with five of powdered gentian, administered twice a day, has been useful in autumnal quartan agues. Of an infusion, made with ʒij of the dried herb, to half-a-pint of boiling water, from f ʒiv to f ʒi may be given three times a day.

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Pl. 34

Momordica Elaterium.

W. Clark, del. et sc.

London, Published by John Stewart, Leicester Square, Sept. 1827

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MOMORDICA ELATERIUM.

Wild, or Squirting Cucumber.

Class XXI. MONŒCIA.—*Ord.* VIII. MONADELPHIA.

Nat. Ord. CUCURBITACEÆ, *Lin. Juss.*

GEN. CHAR. Male. *Calyx* 5-cleft. *Corolla* 5-parted. *Filaments* five.

Female. *Calyx* 5-cleft. *Corolla* 5-parted. *Style* trifid. *Gourd* opening elastically.

SPEC. CHAR. *Leaves* heart-shaped, sinuated, rough. *Tendrils* none. *Fruit* elliptical, hispid, elastic at the base.

Syn.—Cucumis sylvestris, *Camer. Epit.* 946.
Cucumis sylvestris, asininus dictus, *Ger. Em.* 912; *Bauh. Pin.* 314.
Cucumis agrestis, *Blackw. t.* 108.
Momordica Elaterium, *Lin. Sp. Pl.* 1434; *Willd.* iv. 601; *Woodv.* 121. *t.* 43; *Stokes Bot. Mat. Med.* iv. 466.
ENGLISH.—*Elastic Momordia; Wild, Squirting, or Asses Cucumber; Wild Balsam Apple.*
FOREIGN.—*Concombre sauvage, ou d'âne*, Fr.; *Concomero salvatico*, Ital.; *Cohombrillo*, Span.; *Eselsgurken*, Ger.

WILD CUCUMBER is a hardy annual, growing spontaneously on waste grounds, in the south of Europe; flowering in June and July. It appears to have been introduced into this country at an early period, and is mentioned by Gerarde in 1596. With us, it is seldom cultivated except for curiosity, and does not survive the severity of a northern winter. A few acres, however, are raised annually at Mitcham, in Surry, and some other places, for the sake of the fruit, which yields the well known *elaterium* of the shops.

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From the root, which is large and fleshy, somewhat resembling that of briony, issue several thick, round, rough, and trailing stems, divided into many branches, extending every way three or four feet, and destitute of tendrils. The leaves are irregularly heart-shaped, slightly sinuated, rough, hairy, of a greyish green colour above, paler underneath, and stand upon long footstalks. The flowers are axillary, much smaller than those of the common cucumber, of a straw-yellow colour, and are both male and female on the same plant: the male flowers stand on short peduncles, but the female sit on the germen; the corolla is divided into five acute segments, reticulated with green veins, and woolly; the filaments are short, tapering, inserted into the base of the corolla, and supporting recurved, double-headed, orange-coloured anthers; the style is short, cylindrical, three-cleft, and terminated by an oblong stigma. The fruit is watery, of a coriaceous texture, pendulous, oblong, of a greyish colour, and closely set with short bristles. When ripe, it bursts on being touched, and throws out, with great violence, the juice and seeds, through the hole at the insertion of the footstalk.—Fig. (*a*) represents the stamens; (*b*) the pistil and germen.

The term *elaterium* was used by Hippocrates to denote internal applications of a detergent or digestive nature, but more especially purgatives of a violent or drastic quality, from the word Ελαυνω, *agitomoveo, stimulo*, but by succeeding authors it was exclusively applied to the active matter which subsides from the juice of the wild cucumber, either on account of its purgative properties, or because its capsule when ripe, suddenly bursts with violence, and emits its contents to a considerable distance. Hence, also, its name "Squirting Cucumber."

Qualities and Chemical Properties.—According to Lewis, all the parts of this plant are purgative; an opinion, which he appears to have borrowed from Geoffroy, who says, "radicum vis cathartica major est quam *foliorum;* minor vero quam *fructuum.*" Lewis observes further, that in Holland, an extract from the root in wine, is exhibited for the elaterium, and found equally efficacious. M. M. Coste and Willemet, also recommend the root to be given in doses from fifteen to thirty grains; but the

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conflicting accounts respecting the effects of the substance improperly termed "*extractum elaterii*, (for it is not an extract, either in the chemical or pharmaceutical acceptation of the term, nor an inspissated juice, nor is it a fecula)," and the uncertainty with which different samples are administered, induced Dr. Clutterbuck to institute a series of experiments, from which it appears,

"That the most active principle belonging to this plant, is neither lodged in the *roots*, *leaves*, *flowers*, nor *stalks*, in any considerable quantity; nor is it to be found in the *body* of the fruit itself, or in the *seeds* contained within it; *it was only in the juice around the seeds, therefore, that it could be looked for; and here it will be found, as is evident from the following trials.*

"This juice, as it first issues, without pressure, appears perfectly limpid and colourless. After it has stood for a short time, it becomes turbid; and after some hours it slowly deposits a sediment, which, being collected and gently dried, without much exposure to light, is of a yellowish white colour, slightly tinged with *green*. When dried, it is very light and pulverulent. This is the real *elaterium*, and it is extremely active as a medicine; an *eighth* part of a grain seldom failing to purge violently, and often with vomiting previously. The quantity contained in the cucumber is exceedingly small. From forty cucumbers I obtained only six grains; so that a single cucumber contains about an ordinary dose. Half a bushel, charged at half a guinea in the market, furnished less than two drams of elaterium; hence we cannot wonder at the high price it bears in the shops. This, however, is unnecessarily enhanced by the mode of preparation, and its not being known distinctly in what part the active principle is lodged.

"The juice, after the elaterium had subsided, was evaporated to an extract. Two grains of this were given in *six* cases. In *two* of them it produced several stools; *one* was vomited, and was purged on the following day; *one* was vomited in half an hour without purging; and in *two* it appeared to produce no effect.

"I gave five grains of a similar preparation, obtained from Apothecaries' Hall, in *fourteen* instances. In *seven* of them it produced no effect; in *three* it appeared to operate gently by stool. Of the others there was no report.

"It appears from hence, that the juice, after the fecula, or *elaterium* has subsided, contains but very little of the active principle; and *that*, probably, from the fecula having imperfectly subsided.

"With regard to the *sensible* and *chemical* properties of the fecula, which subsides spontaneously from the juice contained within the cucumber, as above described, and which alone appears to be the true elaterium, I have already observed that it is a light, pulverulent substance, of a very pale green colour, approaching to yellowish white. To the *taste* it is acrid and bitterish. The juice itself, as it escapes from the cucumber, readily inflames the skin of the fingers and on

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getting accidentally into the eye in one instance, it occasioned severe pain and inflammation, with an erysipelatous swelling of the eyelids, that continued till the following day. The fecula, in the dose of one-eighth of a grain, seldom failed to produce both vomiting and purging, and that often violently. Half this quantity, viz. one-sixteenth of a grain, generally excited considerable purging. From several trials I have made, it appears to operate in little more than half the dose of that obtained from Apothecaries' Hall; which, however, is far more efficacious than what is generally sold in the shops, the quality of which varies extremely. *Some* specimens have acted very well in half grain doses; *others* have produced no effect in the dose of two grains. These are either improperly prepared, or are greatly adulterated. The best and most active I have seen, was some which I obtained from Mr. Parrott, of Mitcham, who for several years raised the plant in his own garden, and prepared the elaterium in large quantity for the Apothecaries' Company.

"Much of this medicine, as it is ordinarily met with in the shops, is of a dark green colour, approaching to black: it is likewise compact and heavy, and breaks with a shining resinous fracture. This is usually prepared by strong pressure of the cucumber, and consists, of course, in great part, of the ordinary juices, as well as the elaterium. It is very uncertain in its operation, and very weak, in comparison with that which has been properly prepared. The quantity is much increased by this mode of preparation; and hence it is sold at a much lower rate. The difference in price of this drug is extreme; the Apothecaries' Company charging sometimes as much as twelve shillings a dram, while it is sold at Corbyn's and some other shops, at four shillings. The quality, indeed, is superior at the Hall; but in no degree proportioned to the price. Yet I do not believe that either obtains an exorbitant profit; the difference arising chiefly from the mode of preparation, which, by the Apothecaries' Company, who adhere rigidly to the directions of the Pharmacopœia, is extremely wasteful, as I have satisfied myself by inspection.

"With respect to the *chemical* properties of this substance, I shall enter no further into these, than is connected with the purposes of pharmacy.

"*Water*, whether *hot* or *cold*, appears to have no action on pure elaterium. An infusion of eight grains, when filtered, produced no effect. Its insolubility in water, indeed, might be inferred from its spontaneous subsidence in the fluid: yet it is said, by Dr. Woodville, in his 'Medical Botany,' to be soluble both in spirit and in water. What it is that keeps the elaterium in a state of solution in the juice as first discharged, I have not ascertained.

"The *elaterium* procured from the spontaneous subsidence of the juice, without expression, and which may be considered as in a state of purity, dissolves almost entire in alcohol. Of the best specimens from the Hall, spirit dissolves more than a half; while of inferior sorts, a *fourth* part is thus dissolved. The residue, after repeated affusions of spirit, is quite inert as a medicine. The active principle therefore may be considered as of a *resinous* nature; by which I only mean, however, that it is soluble in alcohol, which it tinges of a pale

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green colour. When the spirit is slowly evaported, a resinous looking extract is obtained, which is very inflammable, and which is extremely active as a medicine; the *sixteenth* part of a grain generally producing considerable purging, and often vomiting. When the dose was increased to one-fourth of a grain, the effect was more considerable, and often took place in a very few minutes."

The foregoing detail was communicated to the president of the College of Physicians, who requested Dr. Paris to report upon them. He accordingly, in conjunction with Mr. Farraday, entered upon a new series of experiments; "The results of which will show, that although Dr. Clutterbuck found that an *eighth* part of a grain of elaterium seldom failed to purge violently, yet strange as it may appear, that not more than one grain in ten of elaterium, as it occurs in commerce, possesses any active properties, and that this decimal part is a vegetable proximate principle, not hitherto noticed," to which Dr. Paris gives the name of *Elatin*. A full detail of these experiments is given by this gentleman,* and he expresses the chemical composition of elaterium in the following manner:

Water	·4
Extractive	2·6
Fecula	2·8
Gluten	·5
Woody matter	2·5
Elatin and Bitter principle	1·2
	10 grains.

Dr. Paris further remarks,

"That the whole of the *elatin* does not separate itself from its native juice by spontaneous subsidence, and that, on this account, the supernatant liquor possesses some powers as a cathartic. We cannot be surprised therefore that the elaterium of commerce should be a very variable and uncertain medicine: for independently of the great temptation which its high price holds out for adulterating it, which is frequently done with starch, it necessarily follows that where the active principle of a compound bears so small a proportion to its bulk, it is liable to be affected by the slightest variation in the process for its preparation, and even by the temperature of the season; where pressure is used for obtaining the juices, a greater or less quantity of the inactive parts of the cucumber will be mixed with the *elatin*, in proportion to the extent of such pressure, and the elaterium will, of

* Vide Pharmacologia, edit. 6th, fol. 226.

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course, be proportionally weak. There is one curious result obtained in my experiments which deserves notice, *viz.* that there is a bitter principle in the elaterium, very distinct from its extractive matter, and totally unconnected with its activity, for I diluted the solution obtained in experiment G. and swallowed it, but it produced upon me no effect, except that which I generally experience upon taking a powerful bitter—an increased appetite: and yet notwithstanding this fact, when in combination with *elatin*, it is far from being inert, since this body is considerably quickened by its presence."

Mr. Barry has made some trials on the elaterium prepared according to the process of Dr. Clutterbuck, and found that out of ten grains of the first sample, 5·5 were soluble in spirit of the specific gravity of 809; of the second 6·2; and of the third 6·4; of that prepared by the same process at Apothecaries' Hall, six grains were soluble. The residue, insoluble in the spirit, was administered to a patient, and ascertained to be perfectly inert.

"Mention is made, by Bergius, of *two* kinds of elaterium, the *white* and the *black*. The *white* is prepared from the juice that flows without pressure from the fruit simply cut open. The juice is suffered to form a deposit, which is dried by the heat of the sun. It seems to be the precise substance which I have described above. *Bergius* says it is dissolved by digestion in water, but this appears to be a mistake.

"The *black* elaterium is prepared from the expressed juice of the cucumber altogether, and of course contains a great deal of extractive and colouring matter along with the real elaterium. This black preparation, instead of being light and pulverulent, is said to be heavy and glutinous when masticated, and sticks to the teeth; it is irritating to the fauces. It dissolves in considerable proportion in *water*, but only partially in *spirit*. It is also deliquescent in some degree. The white is more *resinous*, the black *gummy*, in its properties.

"The mode of preparing the elaterium in different pharmacopœias is far from uniform, and the medicine varies accordingly, independent of adulteration. According as more or less *pressure* is used, the medicine will approach to the *black* or *white* species, described above. It appears, from the account I have given, that pressure is not at all necessary in order to obtain the elaterium, and can only serve to deteriorate its quality, and render the dose uncertain. It is in this way that I account for the large doses prescribed by some writers, without any caution. Sydenham recommends two grain doses without reserve; and Woodville extends the dose from half a grain to three grains. These quantities where the medicine is in the most active form, would, I think, be often attended with danger.

"The method recommended by the London college, and which is strictly followed at Apothecaries' Hall, is the least objectionable, as it directs only the slightest pressure to be made use of. It is, however, liable to objections in other respects, from it not having been known

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that the elaterium resides *exclusively* in the juice lodged in the hollow of the cucumber. Hence this has been often wasted and lost. Another source of waste, and that to a great amount, is the bursting of many of the cucumbers during their removal from the country.

"I have obtained the greatest quantity of the medicine by the following method:—

"The cucumbers should be gathered when nearly as ripe as possible, and without violence, that might endanger their bursting*. They should then be wetted by the affusion of cold water, that less of the juice when they are cut may adhere to the external surface. In this state they should be cut through longitudinally, and the juice allowed to strain through a fine sieve, placed in a large earthenware vessel. The seeds and surrounding pulp should be scooped out upon the sieve, and washed with repeated affusions of cold water, by which they will be freed from all adhering juice. Something will be saved also by afterwards rincing the split cucumbers themselves in cold water, from which a portion of elaterium may be collected.

"After standing a few hours, a sediment is formed from which the clear liquor is to be poured off; it is then to be thinly spread on fine linen, and exposed to the air to dry: a gentle warmth may be employed without injury; but the access of sunshine destroys the fine green colour which the subtance otherwise acquires."—*(Clutterbuck.)*

POISONOUS EFFECTS.—Elaterium very much resembles the Helleborus *niger* in its effects, and when taken in over doses, produces hypercatharsis, vomitings, pain in the bowels, increased heat of skin, and all the usual symptoms attendant on inflammation of the abdominal viscera. Orfila ascertained by experiments on dogs, that the mucous membrane of the stomach was of a fiery red throughout, and although the intestines exhibited no traces of inflammation, the interior of the rectum was generally covered with rose-coloured spots.

From the experiments referred to, he infers,

"1st. That the first effects of elaterium are dependent on the inflammation it produces, as much as on its absorption.

"2nd. That death, which is the consequence of the administration or application of this substance, must be attributed to the lesion of the nervous system sympathetically affected.

"3rd. That besides, it exerts a special action upon the rectum."

TREATMENT.—See *Helleborus niger* (Art. XI.)

MEDICAL PROPERTIES AND USES.—We presume, that after the excellent account of the properties of elaterium by Dr. Clutterbuck becomes known to our readers, they will not employ

* The Dublin College direct them to be gathered *before* they are ripe; by this means the chance of bursting is avoided; but it is a question whether the medicine is equally active as at a later period.

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any of that substance unless it be prepared according to his directions.* It will then be found a good cathartic in obstinate constipations, and as a hydragogue in dropsy, it is not excelled. Dr. Clutterbuck† has not found any single medicine equally efficacious in checking the course of fever; with which view he generally employs an *eighth* or a *quarter* of a grain, two or three times in the twenty-four hours; and that for several days. In this quantity, it generally answers the double purpose of exciting vomiting and purging at the same time; and these evacuations are rendered more effectual in cutting short the fever, by previous blood-letting. Our esteemed friend, Mr. Sprague, whose communications on pharmacy very much enriched the pages of the Medical Repository, recommends the following pill-mass as the best form of giving elaterium as a cathartic:

℞ Elateri extracti (Dr. Clutterbuck's) gr. xv.
Potassæ Sulphatis ℈j.
Saponis Duri ʒj.
Zingiberis Rad. Pulv. ʒiss.

Potassæ sulphatem et elaterium simul tere, dein cum zingibere et postea cum sapone contunde, et adde aquæ quantum sufficit, ut fiat massa; in pilulas sexaginta dividenda. Dosis i. ad ij. omni hora donec plene solutus sit alvus.

Two grains of elaterium rubbed up with eight grains of hard soap, present us with a combination for a suppository, that may be advantageously used in apoplexy. Elaterium appears to have been formerly used in practice, and Simon Pauli recommends it when milder means have failed. "Lister and Hoffman both assert, that it produces often great heat and pulsation at the very extremities of the fingers;" and it sometimes affects the head. Sydenham and his cotemporaries used it for dropsy, but in consequence of its violent effects, arising from injudicious management, it fell into disrepute; till it was successfully used for the cure of hydrothorax, by Dr. Ferriar, of Manchester. It was once esteemed as an errhine.

Off. Prep.—Extractum Elateri. *L. E. D.*

* Messrs. Barnes and Coster, of Brown Street, Bryanston Square, whose extracts are the best we know of, have prepared elaterium for the supply of the profession.
† Vide Observations on Epidemic Fever, p. 118. By H. Clutterbuck, M.D.

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Pl. 35

Œnanthe crocata.

W. Clark del. et sculp.

London, Published by John Churchill, Leicester Square Sept. 1807

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ŒNANTHE CROCATA.

Hemlock Water-dropwort.

Class V. PENTANDRIA.—*Order* II. DIGYNIA.

Nat. Ord. UMBELLATÆ, *Lin.* UMBELLIFERÆ, *Juss.*

GEN. CHAR. *Involucrum* sometimes wanting; *involucella* of many leaves. *Flowers* radiate; *florets* in the disc, small, nearly equal, and hermaphrodite; in the circumference very large, irregular, and abortive. *Fruit* prismatic 5-ribbed.

SPEC. CHAR. *Leaflets* all wedge-shaped, nearly equal. *Fruit* linear-oblong, ribbed.

Syn.—Œnanthe cicutæ facie Lobelii, *Raii Syn.* 210. 3; *Park.* 894.
Œnanthe tertia, *Matth. Valgr. v.* 2. 220. *f.*
Filipendula cicutæ facie, *Ger. Em.* 1059. *f.*
Œnanthe crocata, *Lin. Sp. Pl.* 365; *Willd. v.* 1. 1441; *Fl. Brit.* 319. *Eng. Bot. v.* 33. *t.* 2313. *Hook. Scot.* 92; *Woodv. v.* iv. *t.* 267; *Stokes Bot. Mat. Med. v.* 2. 114.
PROVINCIALLY.—*Hemlock Dropwort; Yellow Water-dropwort; Dead Tongue; Water Lovage.*
FOREIGN.—*Œnanthe*, Fr.; *Enante*, Ital.; *Filipendula*, Span.; *Rækrige Rebendole*, Ger.

ŒNANTHE CROCATA is decidedly one of the most active of our poisonous vegetables. When received into the stomach in any considerable quantity, it produces very violent effects on the nervous system, and speedily proves fatal. It is a tall umbelliferous plant, somewhat resembling Smallage, or Wild Celery, for which it has sometimes been mistaken. It is found growing on the sides of ditches, and on the borders of lakes and rivers, in many parts of Britain; flowering in July. It is particularly

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abundant on the banks of the Thames between Greenwich and Woolwich among the reeds, growing with *Apium graveolens*, and some other aquatics; about the Red-house, Battersea; in the Isle of Dogs, and other places near London. Dr. Milne found it in the marshes about Tunbridge; by the side of the Lewisham river, beyond the water-works; in the marshy meadows between South-end and Sydenham; and betwixt Loom-pit hill and Lewisham, on the left-hand in going from New-cross, near the bridge. It is very common in some of the northern counties, and we learn from Dr. Greville, in his "*Flora Edinensis*," that it grows on the bank of a river at a place called Lasswade, near Edinburgh.

The root is thick, white, fleshy, and divided into three or four small branches, somewhat resembling the common parsnip, for which it has sometimes been mistaken. The stem, which as well as the root contains a fœtid, orange-coloured juice, is round, furrowed, hollow, much branched, and rises to the height of three or four feet. The form and colour of the leaves, and indeed the general appearance and habit of the plant, have a striking resemblance to the common garden parsley. The leaves are large, bipinnate, smooth, of a deep green, with the leaflets wedge-shaped, mostly opposite, veined, irregularly cut, and sessile, or placed on very short stalks. The general umbels are large, terminal, many-rayed; the partial ones more numerous, and very short: the general, as well as partial involucres, consist of many leaves, varying in number and form. The flowers are white, or pinkish, obcordate, numerous, slightly radiating; the outermost irregular and abortive, the innermost smaller, regular, and prolific: the filaments are thread-shaped, longer than the corolla, with roundish anthers: the germen is ovate, with a slender awl-shaped style, supporting a small obtuse stigma. The fruit is oblong, ribbed, and crowned with the permanent calyx, and elongated spreading styles.—Fig. *(a)* represents a floret of the circumference; *(b)* a floret of the disc.

The scientific name *Œnanthe*, occurs in Theophrastus and Dioscorides, and is derived from οινη, *the vine*, and ανθος, *a flower*. Tournefort first applied it to the present genus, because

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it blossoms at the same time as the vine, and because the flowers reminded him of the smell and colour of that plant. The trivial name *Crocata* was given in consequence of the yellow juice which it yields.

Wepfer has confounded this plant with his *cicuta aquatica*, and complains that Lobel has described the *cicuta aquatica* under the name of *Œnanthe Cicutæ facie, succo viroso croceo*, nine years afterwards. In the *Ephemerides Naturæ Curiosum*, he also asserts that *Stalpart Van Der Wiel* makes the same mistake; although from the descriptions of Lobel, which were very exact for the times he lived in, and from the plates of Stalpart, it is very evident that they were right. Hoffman also, in his *Medicin. Rational. Systematic.* tom. II. p. 174. *edit.* 4to. makes no mention of the difference. His words are, "Ex vegetabilium regno inter præsentissima venena referri debeat cicuta vera, napellus sive aconitum cæruleum, solanum furiosum, hyosciamus, ac datura."

We have already observed, that both the colour and form of the leaves have a striking resemblance to parsley, and Johnson asserts, that either from ignorance, or a less excusable cause, the roots were in his time frequently sold for those of pœony; and that the women likewise, who supply the apothecaries with herbs, vended this pernicious root under the name of Water Lovage. A man has lately been imposing on the inhabitants in the vicinity of town, by selling the roots for those of the beautiful Dahlia.

Qualities.—The root, in which the deleterious quality is most powerfully resident, contains a juice that is at first milky, and afterwards becomes yellow. It has an acrid, unpleasant taste, and fœtid smell. The other parts of the plant also yield the same kind of juice; and Mr. Erhert, a botanical artist, asserted, that while drawing the plant, the smell from it rendered him so giddy, that he was several times obliged to quit the room, and walk in the air to recover himself; but that having opened the door and windows of the room, the free air enabled him to finish his work.

Poisonous Effects.—The Œnanthe Crocata appears to

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be the most virulent of the umbelliferous plants: for if admitted into the stomach in but a small quantity, it is instantly productive of the most violent effects: such as convulsions, frequent hiccough, ineffectual retchings, hœmorrhage from the ears, and other violent symptoms which terminate in death: and it is very evident, from the subjoined accounts, that "it exerts an energetic local irritation, and acts powerfully on the nervous system."

"Eight young lads going a fishing to a brook near Clonmell, in Ireland, meeting with a parcel of Hemlock Dropwort, and mistaking their roots for those of Water Parsnep, ate a quantity of them. About four or five hours after, going home, the eldest, who was almost of man's stature, without the least previous disorder, on a sudden fell down backwards, and lay sprawling upon the ground. His countenance soon turned very ghastly, and he foamed at the mouth. Soon after, four more were seized in the same manner; and they all died before morning. Of the other three, one became mad, but recovered his senses next day. Another lost his hair and nails; and the third escaped without receiving any harm—which perhaps might be occasioned by his speedy running two miles after he saw the first young man fall, together with his drinking a very large draught of milk warm from the cow, in the midway." *

"M. Charles, was called in to attend a whole family that had eaten of the roots of Œnanthe. Momentary sensations of an arid heat, determining to the head; a pungent burning in the epigastric region, and small rose-coloured spots of an irregular shape, extending successively; such were the symptoms produced by the poison. These spots, which did not exceed the level of the skin, first made their appearance on the face, then on the breast, and on the arms; the father alone had the belly swelled out like a balloon. Mucilaginous, and oily medicines, with milk, were successfully administered to them."†

"Three French prisoners being in the fields near the town of Pembroke, dug up a large quantity of a plant (which they took to be *wild celery*) to eat with their bread and butter, for dinner. After washing it, while yet in the fields, they all three eat, or rather only tasted of the roots.

"As they were entering the town, one of them was seized with convulsions. The other two ran and sent a surgeon, who endeavoured first to bleed, and then vomit him, but in vain; and he died presently. Ignorant of the cause of their comrade's death, and of their own danger, they gave of these roots to eight other prisoners, who all eat some of them with their dinner. A few minutes after, the two who gathered the plants, were seized in the same manner as the first, of which one died. The other was bled, and an emetic with great difficulty forced down, on account of his jaws being set.

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* Lowthorp's Phil. Transac. abridged, vol. ii. page 641.
† Annales Chimiques de Montpellier, No. 134.

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This operating he recovered; but was some time much affected with dizziness in his head, though not sick, or in the least disordered in his stomach. The other eight being bled, and vomited immediately, were soon well.

" What they eat was *Æ. Aquatica cicutæ facie* of Lobelius, which grows in plenty all over this country, and is called by the inhabitants, five-fingered root, and is much used by them in cataplasms for the felon, or worst kind of whitlow. They eat only the root, and none of the leaves or stalk."—*Gentleman's Mag.* 1747, p. 321.

" Stalpart Van Der Weil, in his Observations, takes notice of the deadly effects to two persons, who had eaten these roots, mistaking them for Macedonian parsley. Soon after eating the roots, they were troubled with violent heats in the throat and stomach, and purging. One of them bled at the nose; the other was violently convulsed. Both of them died; one in two hours, the other in three."

" The dead bodies of three unfortunate Belgians, belonging to the 82nd Demi-brigade, were brought to the principal naval hospital at Brest. They had been deceived by the resemblance which the root of *Œnanthe crocata* bore to one made use of in their own country, and ate a great quantity of it. Its sweetish flavour pleased their palates and contributed to the keeping up of their error. They very soon experienced a general uneasiness, nausea, vertigoes, and vomitings. To these symptoms succeeded convulsions, and with such rapidity, that they sunk under them in less than half an hour, and before any assistance was given :"—

Morbid Appearances of these Men.—Nothing remarkable on the exterior surface of the body. One of these bodies was preserved for four days, and at the end of that time no sign of putrefaction was observed: the brain and its membranes were sound, the lungs distended; their vessels full of black and dissolved blood. On the bronchiœ, trachea, and mouth, was found a frothy and whitish fluid. The lungs in one of these bodies presented on their external surface some petechiæ; the cavities of the two circulatory systems empty; the heart sound. The stomach contracted, and inflamed at its extremity (pyloric?) and lesser curvature; its coats thickened: the intestines puffed up, and their vessels injected; the venous and arterial systems distended with a fluid of the same nature, dissolved and blackish: the derangements were precisely the same in all three.*

Further accounts of this dreadful poison may be found in Vanderwiel's *Observationum Pariorum, &c. tom.* 1, *p.* 182. In *Philosophical Transactions, p.* 836, *Anno* 1758. In Dr. Allan's *Synopsis Medicinæ;* and Boerhaave's *Historia Plantarum; Lug. Bat. p.* 79.

Treatment.—See article *Helleborus niger*, No. XI.

Uses.—Few practitioners now venture to prescribe the use of

* Duval's Dissertation Inaugurale.

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this plant; but it is said that an infusion of the leaves, or three tea-spoonsful of the juice have been successfully administered for some obstinate cutaneous diseases, particularly for lepra and ichthyosis. Dr. Hope, the father of the present able Professor of Chemistry in the University of Edinburgh, found an infusion of the leaves highly useful in promoting the menstrual discharge. In Westmoreland, the country people apply a cataplasm of the herb to the ulcer which forms in the fore-part of the hoof in horned cattle, and is called "*foul.*" It sometimes proves diuretic; but its real powers, as a remedial agent, are as yet imperfectly understood.

We learn from Sir James Edward Smith, in his "*English Flora,*" on the authority of Sir Thomas Frankland, that brood-mares sometimes eat the root and are poisoned by it.

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Geum urbanum.

W. Clark. del. et sculp.

London. Published by John Churchill. Leicester Square. Sept.r 1827.

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GEUM URBANUM.

Common Avens, or Herb Bennet.

Class XII. ICOSANDRIA.—*Order* VIII. POLYGYNIA.

Nat. Ord. SENTICOSÆ, *Lin.* ROSACEÆ, *Juss.*

GEN. CHAR. *Calyx* 10-cleft, inferior. *Corolla* 5-petalled. *Seeds* with a bent awn. *Receptacle* cylindrical.

SPEC. CHAR. *Flowers* nearly erect; awns naked. *Leaves* ternate; radical ones lyrato-pinnate.

Syn.—Caryophyllata, *Raii. Syn.* 253, 1; *Ger. Em.* 994. *f.*; *Matth. Valgr. v.* 2. 383. *f.*
Caryophyllata vulgaris majore flore, *Park.* 136; *Bauh. Pin.* 321.
Geum, *n.* 1130, *Hall. Hist. v.* 2. 52.
Geum urbanum, *Lin. Sp. Pl.* 716; *Willd. v.* 2. 1113; *Fl. Brit.* 554; *Curt. Lond. fasc.* 2. *t.* 36. *Stokes, v.* 3. 156. *Woodv. Sup.* 259.
FOREIGN.—*Benoite officinale*, Fr.; *Cariofilata*, Ital.; *Nelkenwurzel*, Ger.

THIS is a common perennial plant, growing wild in woods, and shady places, in many parts of Great Britain; and it occurs also in similar situations throughout Europe, as far north as Sweden. It is found in flower the greatest part of the summer; and is figured in "English Botany," *v.* 20. *t.* 1400.

The root is woody, and fibrous. The stem is erect, two feet round, branched towards the top, rough, and covered with minute hairs. The lower leaves are on long channelled foot-stalks, interruptedly pinnate and lyrate, with the terminal leaflet very large, rounded, and often three-lobed; the upper or cauline ones are sessile, simple, wedge-shaped and trifid; the whole irregularly notched, serrated, hairy, and of a deep

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green colour. The flowers are terminal, solitary, erect or somewhat drooping, and stand on long foot-stalks. The calyx is inferior, of one leaf, permanent, and divided into ten acute segments, five alternate ones of which are smaller. The petals are bright yellow, roundish, and attached by their claws to the rim of the calyx; the filaments are awl-shaped, shorter than the corolla, and supporting yellow anthers; the germens are ovate, compressed, and collected into a round head; the styles jointed above the middle, with simple stigmas. The seeds form a round orbicular head; they are numerous, ovate, downy, and each tipped with a long rigid purple awn, terminating in a small sharp hook.—Fig. *(a)* represents the pistils; *(b)* a portion of the calyx showing the situation of the filaments and anthers; *(b)* a section showing the receptacle, and seeds with their hooked awns.

QUALITIES.—The root of Avens has a gently austere taste, and a fragrant odour. On distillation with water it yields a small portion of an agreeable volatile oil. The infusion strikes a deep black colour with the salts of iron, and gives a copious precipitate with gelatin.

MEDICAL PROPERTIES AND USES.—The effects of Geum urbanum, are those of a moderate astringent, antiseptic, and tonic. The root may be given with safety in all cases where we wish to restrain immoderate discharges, especially those from the bowels, when not attended with inflamatory action. It was formerly in much repute in diarrhœa and dysentery, and has of late years been strongly recommended by the continental physicians, especially in Germany, as a substitute for Peruvian bark in the cure of intermittent fevers. Although Avens has been seldom employed in practice in this country, it would seem to be possessed of very valuable properties, and being an indigenous vegetable, we can confidently recommend it to the attention of the profession for further, and more extensive trials. The decoction, made by boiling one ounce of the roots in a pint of water, for ten minutes, is the usual mode of exhibiting it. Of this one or two ounces may be given every hour. The dose in substance is from half a drachm to a drachm.

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Nicotiana Tabacum.

W. Clark. del. et sculp.

London. Published by John Churchill, Princes Street, Soho, 1st Jan.y 1827.

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XXXVII

NICOTIANA TABACUM.

Virginian Tobacco.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLANEÆ, *Juss.*

GEN. CHAR. *Corolla* funnel-shaped, with the border plaited. *Stamens* inclined. *Capsules* 2-valved, 2-celled.

SPEC. CHAR. *Leaves* lanceolate, ovate, sessile, decurrent. *Segments* of the *Corolla* acute.

Syn.—Tobacco latifolium, *Park.* 363. *t.* 361. *f.* 8; *Raii Hist.* 713.
Hyoscyamus peruvianus, *Ger. Em.* 357.
Petum latifolium, *Clus. Exot.* 309.
Herba sancta indorum, sive Nicotiana gallorum, *Lobel Advers.* 251.
Nicotiana major, sive Tabacum majus, *Bauh. Hist.* 3. 629.
Βλεννοχοις, *Renealm. Spec.* 38. *t.* 37.
Nicotiana Tabacum, *Lin. Sp. Pl.* 258; *Willd.* 1. 1014; *Woodv.* 162. *t.* 60; *Stokes*, 1. 390; *Hort. Kew.* 1. 241.
FOREIGN.—*Tabac*, Fr.; *Tabaco*, Sp.; *Tabacco*, Ital.; *Tabaek*, Ger.; *Bujjirbhong*, Arab.; *Tambdcu*, Hind.

THE Nicotiana Tabacum, or Virginian Tobacco, is an annual plant, a native of America. It is the species chiefly imported into this country as a luxury, and appears to have been introduced since the middle of the sixteenth century. In its native soil the plant flowers in July, but with us it continues to bloom till the end of September.

Every part of the plant is downy, clammy, and fœtid. The stem is erect, round, branched towards the top, and rises to the height of four or five feet. The leaves resemble those of Foxglove, and are numerous, alternate, sessile, oblong, pointed, en-

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tire, and of a dull green colour: those next the root are often two feet long, and four or five inches broad. The stem leaves are somewhat decurrent, and become smaller and narrower as they approach the summit. The flowers are produced in loose panicles, upon longish foot-stalks, and are furnished with long, linear-pointed bracteas: the calyx is bell-shaped, and divided into five acute pointed segments; the corolla is monopetalous, twice the length of the calyx, of a pale greenish colour, swelling into an oblong cup, which expands into five-pointed, plated, rose-coloured segments: the filaments are the length of the corolla, and surmounted by oblong compressed anthers: the germen is oval, and supports a long slender style, terminated by a roundish bilobed stigma. To the flower succeeds an ovate capsule, containing many small kidney-shaped seeds, and bursting at the apex. Fig. (*a*) represents the stamens, showing their insertion into the tube of the corolla; (*b*) the germen and pistil.

The *generic* term "Nicotiana," was bestowed on this plant in honour to Jean Nicot, Ambassador of Francis II. in Portugal; who brought some Tobacco from Lisbon, and presented it to Catherine de Medicis, as a herb possessing valuable properties; hence also it has been termed *queen's herb*. By some, *Tobacco* is said to have been given to the plant by the Spaniards, who took it from Tabaco, a province of Yucatan, where they first found it, and learned its use; others derive it from the island of Tobago: but Humboldt asserts, that "the word tobacco (*tabacco*), like the words savannah, maize, cacique, maguey (agave) and manatee, belongs to the ancient language of Hayti, or Saint Domingo: and that it does not properly denote the herb, but the tube through which the smoke is inhaled."

A very general opinion prevails, that the plant was either brought from Virginia, or from South America; Humboldt expressly contradicts this, and confirms the previous statement, that Europe received the first Tobacco-seeds from Yucatan, about the year 1559; and we gather from his learned work, that the cultivation of this narcotic plant preceded the cultivation of the potatoe in Europe, more than 120 or 140 years. When Raleigh brought Tobacco from Virginia to England, in

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1586, whole fields of it were already cultivated in Portugal; and so quickly did the practice of smoking spread, that at the end of the sixteenth century, bitter complaints were made in England of this imitation of the manners of a savage people—" Ex illo sane tempore (tabacum) usu cepit esse creberrimo in Anglia, et magno pretio dum quamplurimi graveolentem illius fumum per tubulum testaccum hauriunt et mox e naribus efflant, adeo ut Anglorum corpora in barbarorum naturam degenerasse videantur, quum iidem ac barbari delectentur." We may see from this passage of Camden's, that they emitted the smoke through the nose.

In 1634, smoking was denounced in Russia, under the penalty of cutting off the nose; and twenty years afterwards, a council of one of the Swiss cantons, cited all smokers before them; and every innkeeper was ordered to inform against those who were found smoking in their houses.

In the laws of Bern, the importance attached to this custom was evident by the place which it held; the prohibition of smoking following the crime of adultery. The Turkish Sultan, Amurath the Fourth, rendered smoking Tobacco punishable with death, from an apprehension that it produced barrenness; and Urban VIII. anathematised those who used it in churches.

King James I. imbibed similar prejudices, and wrote a curious work, entitled " A Counterblaste to Tobacco;" from which we extract the following passage:

" Tobacco being a common herb, which (though under divers names) grows almost every where, was first found out by some of the barbarous Indians to be a preservative, or antidote against the Pox, a filthy disease, whereunto these barbarous people are (as all men know) very much subject, what through the uncleanly and adust constitution of their bodies, and what through the intemperate heat of their climate. So that, as from them was first brought into Christendom that most detestable disease, so from them likewise was brought this use of tobacco, as a stinking and unsavoury antidote for so corrupted and execrable a malady, the stinking suffumigation whereof they yet use against that disease, making so one canker or vermine to eat out another. And now, good countrymen, let us (I pray you) consider what honour or policy can move us to imitate the barbarous and beastly manners of the wild, godless, and slavish *Indians*, especially in so vile and stinking a custome. Shall we, that disdain to imitate the manners of our neighbour *France*, (having the style of the great Christian kingdom,) and that cannot endure the spirit of the *Spaniards*, (their

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king being now comparable in largeness of dominions to the greatest emperor of Turkey;) shall we, I say, that have been so long civil and wealthy in peace, famous and invincible in war, fortunate in both; we that have been ever able to aid any of our neighbours, (but never deafened any of their ears with any of our supplications for assistance;) shall we, I say, without blushing, abase ourselves so far as to imitate these beastly *Indians*, slaves to the *Spaniards*, the refuse to the world, and as yet aliens from the holy covenant of God? Why do we not as well imitate them in walking naked as they do, in preferring glasses, feathers, and such toys, to gold and precious stones, as they do? Yea, why do we not deny God, and adore the devils as they do?"

The monarch, not content with writing against this favourite luxury, endeavoured to abolish its use by taxing it heavily; but finding that notwithstanding both his writings and prohibitions the demand for it increased, he commanded, in 1619, that no planter in Virginia should cultivate more than 100lbs.

It is supposed, that "the juice of cursed hebenon," by which, according to Shakspeare, the king of Denmark was poisoned, was the essential oil of Tobacco:

> ——————— "Sleeping within mine orchard,
> My custom always of the afternoon,
> Upon my secure hour thy uncle stole,
> With juice of cursed hebenon in a vial,
> And in the porches of mine ears did pour
> The leperous *distilment*."

"The learned commentator, Dr. Gray, observes, that the word here used (hebenon), was more probably designated by a *metathesis*, either of the poet or transcriber, for *henebon*, i. e. henbane. Now it appears, from Gerarde, that Tobacco was commonly called *henbane of Peru*, (Hyoscyamus Peruvianus); and when we consider how high the prejudice of the court ran against this herb, as so strikingly evinced by the 'Counterblaste' of king James, it seems very likely that Shakspeare, who was fond of playing the courtier, should have celebrated it as an agent of extraordinary malignity, upon such an occasion. No preparation of the hyoscyamus with which we are acquainted, would produce death by an application to the ear; whereas the essential oil of Tobacco might, without doubt, occasion a fatal result."—*Paris Med. Jurisp.* p. 417. vol. ii.

Four species of Tobacco are cultivated in Europe, viz. N. *tabacum;* N. *rustica;* N. *paniculata;* and N. *glutinosa*. Hum-

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boldt found only the two latter growing wild; but the N. *loxensis*, and the N. *andicola*, which he discovered on the bank of the Andes, at 1850 toises of elevation, almost the height of the Peak of Teneriffe, are very similar to the N. *tabacum* and N. *rustica*. The whole genus is almost exclusively American, and the greater number of species appeared to him to belong to the mountainous and temperate region of the tropics. When Sir W. Raleigh was confined in the Tower, he smoked the N. *rustica*.

Tobacco appears to thrive nearly in every part of the globe; being cultivated by the Ceylonese; the natives of the Cape of Good Hope; by the inhabitants of the West Indies; of the Levant; of the coasts of Greece and the Archipelago, &c.; but what is principally imported into this country, we derive from Maryland and Virginia. The latter being sweet-scented, is generally preferred here.

CULTURE.—This plant was formerly cultivated in many parts of England, particularly in Yorkshire, and thrives remarkably well. Half a rood is still allowed to be grown for domestic use, but for the encouragement of the American colonies, any greater cultivation was prohibited: and although those colonies are now lost, the prohibitions still remain in force. Some hopes were however held out in the last session of Parliament, that the prohibitory enactments might be repealed: we therefore subjoin those methods of propagation and culture which have been recommended by J. C. Loudon, Esq. F.L.S. in his valuable, entertaining, and curious book, "The Encyclopædia of Agriculture."

'*The soil* for Tobacco must be deep, loamy, and rich; well pulverised before planting, and frequently stirred, and kept free from weeds, during the growth of the plants. The plants in this country should be raised in a warm part of the garden: the seed is very small, and should be sown and lightly covered, and then the surface pressed down with the back of the spade, in the middle of March. In May they will be fit to transplant, and should be placed in lines three feet apart every way. If no rain fall, they should be watered two or three times. Every morning and evening, the plants must be looked over, in order to destroy a worm which sometimes invades the bud. When they are about four or five inches high, they are to be cleared from weeds, and moulded up. As soon as they have eight or nine leaves, and are ready to put forth a stalk, the top is nipped off, in order to make the leaves longer and thicker. After this, the buds which sprout at the joints of the leaves are all plucked, and not a day is suffered to

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pass without examining the leaves, to destroy a large caterpillar, which is sometimes very destructive to them.

"The following is the mode of *taking and fermenting* the leaves in America. When they are fit for cutting, which is to be known by the brittleness of the leaves, they are cut with a knife, close to the ground; and after laying some time, are carried to the drying-house or shed, where the plants are hung up by pairs upon lines, leaving a space between, that they may not touch one another: in this state they remain to sweat and dry. When perfectly dry, the leaves are stripped from the stalks, and made into small bundles, tied with one of the leaves. These bundles are laid in heaps, and covered with blankets. Care is taken not to overheat them, for which reason the heaps are laid open to the air from time to time, and spread abroad. This operation is repeated till no more heat is perceived in the heaps, and the Tobacco is then stowed away in casks for exportation. To *save seed*, allow one or two plants to run; they will flower and be very ornamental in June, July, and August; and ripen their seeds in September or October.

"In the *manufacture of Tobacco*, the leaves are first cleared of any earth, dirt, or decayed parts; next, they are gently moistened with salt and water, or water in which some salt, and sometimes other ingredients have been dissolved, according to the taste of the fabricator; this liquor is called Tobacco sauce. The next operation is to remove the midrib of the leaf; then the leaves are mixed together, to render the quality of whatever may be the final manufacture or application equal. Next, they are cut into pieces with a fixed knife, and crisped or curled before a fire. The succeeding operation is to spin them into cords, or twist them into rolls, by winding them with a kind of mill round a stick. These operations are performed by the grower, and in this state (of rolls) the article is sent from America to other countries, where the tobacconists cut it into chaff-like shreds, by a machine like a straw-cutter, for smoking, form it into small cords for chewing, or dry, and grind it, for snuff. In manufacturing snuff, various matters are added to give it an agreeable scent, and hence the numerous varieties of snuff. The principal kinds are called Rappees, Scotch, or Spanish, and thirds. The first is only granulated; the second is reduced to a very fine powder; and the third is the siftings of the second sort.

QUALITIES AND CHEMICAL PROPERTIES.—The leaves of Tobacco are large, and of a dull green colour, which they retain when properly dried; their brown colour being produced purposely by the action of a little sulphate of iron. They have a fetid smell, and are extremely acrid, and bitter to the taste. They contain a quantity of nitre, and therefore deflagrate in burning. Mucilage, albumen, gluten, extractive, a bitter principle, and an essential oil, also enter into their composition. Vanquelin has also discovered a peculiar acrid principle, which is volatile, and soluble both in water and alcohol, named *nicotin*. It has the

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peculiar smell of Tobacco; occasions violent sneezing; and is precipitated from its solutions by tincture of galls. Tobacco yields its active matter to water and alcohol, but decoction impairs its activity.

Poisonous Effects.—A young man residing in Leicester-Place, unaware of the serious consequences, infused about an ounce of Tobacco in a quart of coffee, that was standing in the pot for the use of the maid-servant, a girl eighteen years of age, and of robust health. Of this a large tea-cupful was hastily drank, which immediately produced the most depressing nausea, inefficient attempts to vomit, vertigo, tremors, a copious flow of urine, and the greatest depression of the vital powers that could be imagined. Under these circumstances, Mr. Churchill was sent for, and found her bathed in cold perspirations; the pupil was dilated; and the pulse so feeble as scarcely to be felt: she had lost the power of speaking. Frictions to the region of the heart were vigorously employed, and vomiting excited by large draughts of the carbonate of Ammonia, dissolved in water, and by the application of a feather to the fauces. These efforts were soon effectual in evacuating the stomach, but the general torpor of the system existed six hours, and she required constant attendance for that time, during which frictions were very generally employed: hot water was applied to the feet; and a stimulating purgative injection was most advantageously administered. When vomiting had been copiously excited, pills composed of the compound extract of colocynth, combined with capsicum, evacuated the intestines; after which, the girl quickly recovered, merely requiring some effervescing medicine, containing small doses of opium.

"When the evening was pretty far advanced, the master of a schooner conducted me to the cabin, which was almost full of large packages, and pointing out where I was to sleep, left me alone. I felt a heavy suffocating smell, but did not examine the contents of the bales, and immediately went to bed. Soon afterwards, I was harassed by wild and frightful dreams, and suddenly awakened about midnight, bathed in a cold dew, and totally unable to speak or move. However, I knew perfectly where I was, and recollected every thing that had occurred the preceding day; only I could not make any bodily effort whatever, and tried in vain to get up, or even to change my position. The watch on deck struck four bells, and I counted them, though it seemed to me that I did not hear the beats, but received the vibration through my body. About this time, a seaman came into the cabin with a light, and carried away a hour-glass that hung upon a nail, without observing me, though I made several efforts to attract his attention. Shortly after, a pane in the sky-light was broken by accident, and I saw the fragments of glass drop on the floor. These circumstances actually occurred, as I found on enquiry the next day; and I mention them to prove, that the sensations I describe were realities, and not the offspring of perturbed dreams. My inability to move was not accompanied with pain or uneasiness, but I felt as if the principle of life had departed from my frame. At length I became totally

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insensible, and continued so till an increase of wind made the sea a little rough, which caused the vessel to roll. The motion, I suppose, had the effect of awakening me from my trance, and I contrived, some how or other, to get up and go upon deck. My memory was totally lost for about a quarter of an hour, and I had no ideas connected with any thing that was not present before me. I knew that I was in a ship, but nothing more. While in this state, I observed a man drawing water from the sea in buckets, and requested him to pour one on my head. After some hesitation he did so, and all my faculties were immediately restored, and I acquired a most vivid recollection of a vast variety of ideas and events which appeared to have passed through my mind, and occupied me during the time of my supposed insensibility. All this singular derangement had arisen from a copious inhalation of the fumes of Tobacco; for on examining the cabin, I found that the piles of packages consisted of that narcotic plant, and that quantities of it lay even under my bed; in short, that the sloop contained nothing else."—*Foreign Scenes, by J. Howison, Esq.* vol. ii, p. 279.

"As I was endeavouring to set a snake at liberty, which was about two feet in length, of a blueish colour, and had coiled itself round the body of a lizard, one of the Hottentots took out, with the point of a stick, from the short stem of his wooden tobacco-pipe, a small quantity of a thick black matter which he called tobacco-oil. This he applied to the mouth of the snake while darting out its tongue, as those creatures usually do when enraged. The effect of the application was instantaneous, almost as that of an electric shock. With a convulsed motion, that was momentary, the snake half untwisted itself, and never stirred more; and the muscles were so contracted that the whole animal felt hard and rigid, as if dried in the Sun. The Hottentots consider the oil of tobacco amongst the most active of poisonous substances; but it is never applied to the points of their arrows, being probably of too volatile a nature to retain its deleterious quality for any length of time."—*Barrow's Travels in Africa*, p. 268.

"A woman applied to the heads of three children, who were afflicted with scald-head, a liniment prepared with the powder of tobacco and butter: soon after, they experienced vertigoes, violent vomitings, and faintings; they had profuse sweats. During twenty-four hours, they walked as if they were intoxicated.—*Ephem. des Cur. de la Nat.* Dec. 11. Art. iv. p. 461.

We read in the same work of a person who fell into a state of somnolency, and died apoplectic, in consequence of taking by the nose too much snuff.

"The celebrated Santeuil experienced vomitings and horrible pains, amidst which he expired, in consequence of having drunk a glass of wine, into which some Spanish snuff had been put."—*Orfila.*

Fatal cases, arising from an injudicious use of the infusion for Hernia, are recorded by Sir A. Cooper; and Mr. C. Bell, in his *Surgical Observations*, part ii. p. 189, adverting to a patient, says, "His strength held up until the tobacco clyster was administered to him, after which, he very suddenly fell low, and sunk." The smoke also

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proved fatal in an instance witnessed by Desault.—*Œuvres de Chir. t. 2. p. 344.*

That indefatigable and successful physiologist, Mr. Brodie, injected some infusion of Tobacco into the rectum of several cats and dogs, all of which quickly died. On examining them after death, their hearts were extremely distended; whence Mr. Brodie concludes, that the effect of the infusion of Tobacco when injected into the intestine of a living animal, is to destroy the action of the heart, stopping the circulation and producing syncope.

"It appeared to me (continues Mr. B.) that the action of the heart ceased even before the animal had ceased to respire; and this was confirmed by another experiment, in which, a dog killed by the infusion of Tobacco, I found the cavities of the left side of the heart to contain scarlet blood, while in those of the right side, the blood was dark coloured. . . . The infusion of Tobacco renders the heart insensible to the stimulus of the blood, but it does not altogether destroy the power of muscular contraction, since the heart resumed its action in one instance on the division of the pericardium, and I have found that the voluntary muscles of an animal killed by this poison are as readily stimulated to contract by the influence of the VOLTAIC battery, as if it had been killed in any other manner."

Mr. Brodie was at first induced to suppose that the heart becomes affected in consequence of the infusion being conveyed into the blood by absorption, since there is no direct communication between it and the intestines, but a subsequent experiment on a dog, whose head had been removed, and in whom the circulation was kept up by means of artificial respiration, led him to doubt the correctness of such induction.

Mr. B. also poisoned dogs with the empyreumatic oil of tobacco, procured by subjecting the leaves of tobacco to distillation in a heat above that of boiling water: a quantity of watery fluid comes over, on the surface of which is a thin film of unctuous substance. Two minutes after the apparent death of a dog, who had had a drop of the oil injected into his rectum, his thorax was opened; the heart was found acting regularly one hundred times in a minute, and it continued acting for several minutes.

Mr. Brodie concludes from these experiments, "that the em-

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pyreumatic oil of Tobacco, whether applied to the tongue, or injected into the intestines, does not stop the action of the heart and induce syncope, like the infusion of Tobacco; but that it occasions death by destroying the functions of the brain, without directly acting on the circulation. In other words, its effects are similar to those of alcohol, the juice of aconite, and the essential oil of almonds."

These differences in the effects arising from the infusion of Tobacco and essential oil, may probably be referred to the existence of *nicotin* in the former: and the experiments of M. Orfila demonstrate that the action of Tobacco is much more energetic when the soluble portion is injected into the anus, than when it is applied to the cellular texture.

TREATMENT.—When Tobacco has been taken into the stomach, it must be evacuated by emetics, composed of the sulphate of zinc or of copper; or vomiting may be excited as practiced in the first case, narrated under *poisonous effects*. Frictions must be generally employed, but more particularly to the region of the heart; and if ever acupuncture of this organ be advisable in asphyxia,* it must be so when produced by Tobacco; for independently of the proofs which Mr. Brodie has furnished of the direct effects of the infusion upon the heart, he has narrated a case, which we have already adverted to, in which a scalpel accidentally applied to it, while opening the pericardium, excited its reaction. Stimulating the rectum by warm purgatives; preventing the failure of respiration, or exciting it, if necessary, artificially; and keeping up the natural temperature, are important indications, that will suggest themselves to the mind of every well informed practitioner.

MEDICAL PROPERTIES AND USES.—Dr. Fowler, in a distinct treatise, has adduced many cases in which an infusion of Tobacco was advantageously administered in dropsy: but as digitalis is more easily managed, and appears to exert the same kind of effects, it is generally preferred. He also recommends

* For some interesting experiments on this subject, see "Saggio sul Agopuntura &c. by Dr. Antonio Carraro, Physician of Piove di Sacco."—*Annali Universali di Medicina, Luglio*, 1825.

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it in *dysuria*, and as that disease is sometimes connected with spasmodic action, Tobacco frequently proves useful; acting both as a diuretic and antispasmodic. The direct power which it exerts on the muscular system has led to its advantageous adoption in other spasmodic diseases, as colic, ileus, total suppression of urine, and strangulated hernia: in all these diseases the smoke has been thrown into the rectum by bellows suited to the purpose; but an injection of its infusion is more readily and generally employed, and as death has been produced by two, and even one drachm infused in a pint of water, Sir A. Cooper recommends half the latter quantity to be administered first, and to be repeated at intervals till its depressing effects are experienced. It has been occasionally employed as an emetic, but its operation is harsh and dangerous: and as it exerts its effects when externally applied to the region of the stomach, it has been employed where emetics cannot be easily administered by the mouth. Its watery extract, in the dose of two or three grains, has been recommended for chronic catarrh and humoral asthma, and Tobacco, when smoked, has relieved the paroxysm of spasmodic asthma, and painful affections of the face, teeth, and ear. Its employment in *asphyxia* from drowning is now abandoned, and we are only surprised at the ignorance which could have led to such an irrational practice. The Rev. W. Massie, who is just arrived from the Mysore, informs us that the native practitioners in India, use the leaf as a suppository to provoke the action of the bowels of children.

Snuff possesses all the power of Tobacco, and is useful as an errhine: and although much prejudice has been excited against it, from its supposed deterious effects, most people can take it, in moderate quantities, without experiencing any untoward symptoms. Some people suppose that because Tobacco when chewed lessons the appetite, it possesses nutritious qualities in an eminent degree; it is quite the reverse, for it paralyses the stomach, diminishes its nervous sensibility, and allays hunger alone by its sedative effects. Nor is the habit of smoking always to be persisted in with impunity, for independently of the deleterious effects of Tobacco on many constitutions, Sir A. Cooper remarks

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that most of the cases of cancer of the lip that fall under his care, are occasioned by the use of tobacco-pipes. The adhesive nature of the clay, of which the pipe is made, causes it to stick to the lip, and when separated, pulls the lip in some degree with it: this being repeated over and over again by the constant practice of smoking, the thin tender skin of that part of the under lip on which the pipe rests, is torn off, and the end of the pipe now coming in contact with a raw surface, frets and irritates it, until at length it becomes a truly cancerous sore: pipes should therefore be waxed, or used with an ivory covering.

Externally, Tobacco has been applied to scabies, tinea-capitis, prurigo, &c. with considerable advantage, but has even in those cases produced its general effects on the system.

OFF: PREP.—Infusum Tabaci. *L.*
Vinum Nicotianæ. *E.*

FORM for Dr. Fowler's infusion:—

℞ Foliorum siccatorum Nicotianæ Virginiensis unciam unam.
Aquæ bullientis libram unam.

Macera per horam unam in vase clauso, in balneo mariæ posito, deinde, hujus infusi unicas quatuordecim exprime, et colaturæ adde spiritus vinosi rectificati uncias duas, ut melius conservetur.

DOSE.—From 80 to 200 drops.

ADULTERATIONS.—"When it exhales a fœtid odour, we may infer that it has been badly prepared, and not deprived of all its mucus; when pungent, the presence of some deleterious drug is indicated; Cascarilla is very usually added to impart a peculiar flavour; Nitre is also employed for the sake of making it kindle more rapidly, and to impress a lively sensation on the tongue; its vapour is of course very injurious to the lungs: its presence may be detected by heating a sample with hot water, and after filtering the solution through charcoal, setting it aside, in order that it may yield its crystals by evaporation. Traces of *Lead*, *Copper*, or *Antimony*, may be discovered by boiling Tobacco in strong vinegar, and after filtering it as before, by assaying it with appropriate tests. *Black Hellebore*, *Alum*, *Sugar*, and *Corrosive Sublimate* are amongst the more usual sophistications. *Dried Dock* leaves are also sometimes substituted."—(Paris.)

We believe that what has been supposed to be ground glass in snuff, is nothing more than an adventitious admixture of dirt or sand.

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. Anthemis nobilis.

ANTHEMIS NOBILIS.

Common Chamomile.

Class XIX. SYNGENESIA—*Order* II. POLYG-SUPERFLUA.

Nat. Ord. COMPOSITÆ DISCOIDEÆ, *Lin.* CORYMBIFERÆ, *Juss.*

GEN. CHAR. *Receptacle* convex, chaffy. *Seed* crowned with a membranaceous border. *Calyx* hemispherical, scales nearly equal, with scariose margins. *Florets* of the ray numerous.

SPEC. CHAR. *Leaves* bi-pinnate, semi-cylindrical, acute, somewhat downy. *Stem* procumbent. Scales of the *receptacle* membranous.

Syn.—Chamœmelum odoratissimum repens, flore simplici, *Raii Syn.* 185; *Bauh. Hist. v. S. p.* 1. 118. *f.*
Chamœmelum romanum. *Ger. Em.* 775. *f*; *Camer. Epit.* 646. *f*
Chamœmelum n. 102. *Hall. Hist. v.* 1. 44.
Anthemis nobilis *Lin. Sp. Pl.* 1260; *Willd. v.* 3. 2180; *Fl. Brit.* 904; *Eng. Bot. v.* 14. *t.* 980; *Woodv. t.* 103; *Hook. Scot.* 247; *Stokes v.* 4. 242.
FOREIGN.—*Camomille Romaine*, Fr.; *Camomilla Romana*, Ital.; *Manganella de Botera*, Sp.; *Roemische hamiller*, Ger.; *Baboenui*, Arab.

CHAMOMILE is a well-known perennial plant, which grows wild in Cornwall, Surrey, and some other parts of Britain. We found it in great abundance on Wimbledon Common, and on all the dry elevated heaths near London. It flowers in August, and September.

The roots are perennial, jointed, and fibrous. The stems, in a wild state, are mostly trailing, a span or more in length,

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round, furrowed, foliaceous, and downy. The leaves are bi-pinnate, and of a pale green colour; the leaflets small, rather flat above, somewhat hairy, and generally divided into three pointed segments. The flowers are terminal, solitary, with a convex yellow disc, and numerous white, spreading, reflexed rays. The common calyx is hemispherical, and composed of several closely imbricated downy scales, with thin membranous edges; the florets of the disc are numerous, yellow, perfect, tubular, with five equal spreading segments; those of the radius, usually about eighteen, white, ligulate, spreading, with three teeth; the filaments are five, very short, capillary, and have their anthers united into a cylindrical tube; the germen is obovate, supporting a slender style, and furnished with a bifid reflexed stigma. The seeds are ovate, compressed and slightly crowned. The receptacle is conical, surmounted by minute chaffy scales, one to each floret, perceptible to the naked eye, but very conspicuous under a lens. Fig. *(a)* represents a floret of the radius; *(b)* a floret of the disc with the seed and chaffy scale; *(c)* the anthers spread; *(d)* a section of the receptacle.

The generic name, Anthemis is supposed to be derived from Ανθεω, *floreo*, having an abundance of flowers;—the English from χαμαι, and μελον, an apple, hence the Latin "chamomilla," *quoniam odorem mali habeat.* (Plin. l. 22. c. 21.)

Qualities and Chemical Properties.—The flower of this plant is collected before it is fully blown, and then dried. As the taste and odour reside in the tubular florets, which are larger in the single flowers; these are preferable to the double that are always sold in the shops—another instance of utility being sacrificed to appearance. Chamomiles have a bitter, aromatic, and slightly pungent taste, and a strong unpleasant odour. By distillation they yield a volatile oil, on which their virtues appear to depend; but in the preparation of the extract it is lost. Boiling also dissipates the oil. Both water and alcohol take up their active parts, which are the essential oil, resin, and a bitter principle.

All soluble preparations of iron, nitrate of silver, oxymuriate of mercury, acetate and sub-acetate of lead, solutions of isin-

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glass, and infusion of yellow cinchona bark, are precipitated by the infusion, and are therefore "*incompatibles.*"

MEDICAL PROPERTIES AND USES.—Chamomile is a powerful tonic and stomachic, and inferior to no other, when properly administered. It is an excellent and popular remedy for a weakened state of stomach, attended by the ordinary symptoms of indigestion, as heartburn, loss of appetite, flatulency, &c. In such affections, particularly if accompanied by a sluggish state of the intestinal canal, the cold infusion, made with half an ounce of the flowers to a pint of water, and combined with aromatics and alkalies, is grateful to the stomach: or, should hot water be employed, it must be allowed to stand on the flowers ten minutes only;—the time recommended in the London Pharmacopœa: unless, indeed, we wish to excite or encourage vomiting, when a tepid strong infusion will do both. Administered in substance, Chamomile has been successfully employed in intermittent fevers; but occasionally produces diarrhœa. Sir John Pringle states, that the antiseptic powers of the Chamomile are 120 times greater than those of sea-salt: and, externally, the flowers are used for fomentations: hot water, however, is just as efficacious. The infusion is a useful vehicle as a clyster for other more active remedies: and the extract, in doses of ten or fifteen grains, combined with myrrh and preparations of iron, affords a powerful and convenient tonic, in the form of pill. The dose of the powder is from ten grains to half a drachm; that of the infusion from one ounce to two ounces, two or three times a-day.

OFF. PREP.—Decoctum Anthemidis nobilis. *L. E.*

We have already remarked, that the essential oil is dissipated by boiling.

Infusum Anthemidis. *L. E.*
Extractum Anthemidis. *L. E.*
Oleum Anthemidis. *L.*

THE *Anthemis Cotula*, Stinking Chamomile, or May-weed, another species of this genus:—*receptaculis conicis, paleis setaceis,*

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seminibus nudis, has been erroneously ranked by some writers on toxicology among the vegetable poisons. It is an indigenous annual, growing in waste grounds and amongst corn. The whole plant has a strong fœtid odour, and, where it abounds, is often found to blister the hands of those that gather it, which Prof. Hooker attributes to the minute glands sprinkled over its surface. It is never prescribed in the present practice, nor are we aware of its having ever proved poisonous in this country. Dr. Barton states that, like the common Chamomile, a strong decoction, given in the dose of a tea-cup full, will produce copious vomiting and sweating. In America it is used by the vulgar, as a sudorific in chronic rheumatism. A weak infusion, taken to a moderate extent, nauseates the stomach, and is sometimes employed to promote the action of an emetic. It was formerly used internally in scrofula, and hysteria; externally in fomentations.

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"Morus nigra."

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MORUS NIGRA.

Common Mulberry-tree.

Class XXI. MONŒCIA.—*Ord.* IV. TETRANDRIA.

Nat. Ord. SCABRIDÆ, *Lin.* URTICÆ, *Juss.*

GEN. CHAR. Male. *Calyx* 4-parted. *Corolla* 0. Female. *Calyx* 4-leaved. *Corolla* 0. *Styles* 2. *Seed* solitary, invested with the pulpy calyx.

SPEC. CHAR. *Leaves* broad heart-shaped, unequally serrated, somewhat lobed, scabrous above, villose underneath.

Syn.—Morus, *Ger. Em.* 1507; *Camer. Epit.* 179; *Matth. Valgr.* 284.
Morus fructu nigro, *Bauh. Pin.* 459.
Morus nigra, *Lin. Sp. Pl.* 1398; *Willd. v.* 4. 368; *Raii Hist.* 1429; *Woodv.* 352. *t.* 129; *Stokes, v.* 4. 378.
FOREIGN.—*Murier noir*, Fr.; *Morone o Gelso*, Ital.; *Moras*, Span.; *Schwarze Maulbeeren*, Ger.

THE Mulberry-tree grows naturally on the coast of Italy and in Persia; but has been cultivated in England since the end of the sixteenth century. It is generally grown as a standard, and flourishes best in a rich deep light soil. The flowers are produced in June, and the fruit ripens in September.

The tree is not lofty, is much branched, and covered with a rough brown or greyish bark. The leaves, which stand upon short foot-stalks, are about five inches long, and four inches and a half broad; numerous, cordate, serrated, rough, of a deep green colour on the upper surface, and paler and tomentose underneath. Both the male and female flowers are produced on the same plant. The *male* flowers are disposed in close cylin-

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drical catkins, about an inch and a half long, and composed of several florets: each floret consists of a calyx divided into four deep, ovate, concave segments, inclosing four awl-shaped filaments, having simple anthers. The *female* flowers consist of a calyx which is permanent, resembling that of the male; and both are destitute of a corolla; the germen is roundish and supports two reflexed styles furnished with simple stigmas. The fruit is a large succulent berry, or more properly a compound berry, composed of a number of smaller berries, or *acini*, each containing a single seed, and attached to a common receptacle. Fig. (A) represents the male florets; *(a)* a floret previous to the bursting of the anthers; *(b)* a flower expanded; *(c)* a female floret; *(d)* the fruit.

There are several species of the Mulberry; the M. *alba*, being the one which is cultivated to feed the silk-worm, the silk of which is more coarse when they are fed on the M. *nigra*. Another variety is cultivated in Japan, for the sake of its inner bark, from which paper is manufactured.

QUALITIES.—Mulberries are inodorous, possess a sweet subacid taste, and yield a fine rich-coloured juice, which contains tartaric acid, jelly, and mucus.

MEDICAL PROPERTIES AND USES.—This fruit is very grateful to the parched mouths of fever-patients, but is apt to produce diarrhœa if eaten too freely. The syrup is used in gargles, on account of its acidulating properties and its beautiful colour. According to Bergius, the *bark of the root* has been successfully administered in doses of half a drachm, to expel the tape-worm. He also asserts that it acts on the bowels.

OFF. PREP.—Syrupus Mori. *L.*

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Lavandula Spica.

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LAVANDULA SPICA.

Lavender, or Spike Lavender.

Class XIV. DIDYNAMIA.—*Order* I. GYMNOSPERMIA.

Nat. Ord. VERTICILLATÆ, *Lin.* LABIATÆ, *Juss.*

GEN. CHAR. *Calyx* ovate, somewhat toothed, supported by a bractea. *Corolla* resupine. *Stamens* within the tube.

SPEC. CHAR. *Leaves* linear-lanceolate. *Spike* interrupted, naked at the summit.

Syn.—Lavandula flore cæruleo, *Ger. Em.* 583. 1.
Lavendula major, sive vulgaris, *Raii Hist*, 512; *Park*, 73.
Nardus italica, sive Spica recentiorum, *Lob.* 1. 431.
Pseudo-nardus, quæ vulgo Spica. *Bauh. Hist. v.* 3. 282.
Lavendula foliis linearibus, spicis nudis. *Hall. Stirp. Helv.* n. 232.
Lavandula Spica. *Lin. Sp. Pl.* 800; *Willd. v.* 3. 60; *Woodv.* 150; *t.* 55; *Stokes, v.* 3. 304.
FOREIGN.—*Lavande*, Fr.; *Lavand*, Ital.; *Alhuzema*, Span.; *Lavendelblumen*. Ger.

LAVENDER is a dwarf, odoriferous shrub, a native of the south of Europe, and appears to have been cultivated in England previously to the year 1568; it flowers from June to September.

The plant is shrubby, much branched, and rises from two to four feet high; the bark of the younger shoots being of a pale green colour, while that of the stem is rough and brown. The leaves are numerous, linear, hoary, entire, slightly rolled back at the edges; the upper ones sessile, the lower petioled. The flowers form terminating spikes which consist of interrupted whorls, in which the flowers are from six to ten, and are furnished with small ovate bracteas. The corolla is of a bright blue colour,

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and consists of a longish cylindrical tube, divided at the mouth into two lips, the uppermost of which is larger and bifid, the lower expanded downwards, and divided into three segments. The filaments are four, inclosed within the tubular part of the corolla, and support small simple anthers; the style is slender, and crowned with a bilobed stigma, and rises from four naked seeds at the base of the tube. Fig. *(a)* represents a flower magnified and cut open, to show the insertion of the stamens; *(b)* the germen and pistil; *(c)* the calyx; *(d)* a bractea.

There are three varieties of Lavender, namely, L. *augustifolia, flore albo;* L. *latifolia;* and the L. *Spica,* the subject of this article, which is largely cultivated in the vicinity of London; at Mitcham, in Surrey; Henley-on-Thames, and many other places.

Culture.—Lavender is propagated by cuttings or young slips, by planting them in rows, two or three feet asunder, any time in the spring months. The fourth season they will yield a a full crop, after which the plants will continue productive for three or four years. The spikes are gathered in June, dried in the shade, and put up in bundles for sale.

Qualities.—The flowers of Lavender possess an agreeable fragrant odour, and a pungent bitter taste. "*Alcohol* extracts their virtues completely, and elevates in distillation all their odorous parts; water acts less completely," but the oil is obtained in distillation from it.

Medical Properties and Uses.—Cullen observes that, whether applied externally or internally, the *essential oil,* commonly called oil of spike, is a valuable stimulant. The spirit of Lavender enters into the composition of a compound tincture, which is grateful to the palate, and forms a useful cordial for the nervous of the fair sex. The dried leaves were formerly used as a sternutatory, and still enter into the composition of some of the cephalic snuffs.

Off. Prep.—Oleum Lavendulæ. *L. E. D.*
Spiritus Lavendulæ. *L. E. D.*
Spiritus Lavendulæ compositus. *L. E. D.*
Linimentum Camphoræ compositum. *L.*

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Humulus Lupulus.

W. Clark. del. et sculp.

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HUMULUS LUPULUS.

The Hop.

Class XXII. DIŒCIA.—*Order* V. PENTANDRIA.

Nat. Ord. SCABRIDÆ, *Lin.* URTICÆ, *Juss.*

GEN. CHAR. Male. *Calyx* 5-leaved. *Corolla* 0. *Anthers* with 2 pores.

Female. *Scales* of the catkin large, concave, oblique, entire. *Corolla* 0. *Styles* 2. *Seed* 1, within a leafy calyx.

SPEC. CHAR. 0.

Syn.—Lupulus mas et fœmina, *Raii Hist.* 156; *Bauh. Pin.* 298. 1, 2.
Lupulus salictarius, *Ger. Em.* 885; *Fuch.* 164; *Plin. Hist. Nat. l.* 21. n. 15.
Lupulus seu sativus, seu sylvestris, *Park.* 176; *Trag.* 812.
Lupulus n. 1618. *Hall. Hist.*; *Dod. Pempt.* 409. 1; *Camer. Epit.* 933, 934.
Humulus Lupulus, *Lin. Sp. Pl.* 1457; *Willd. v.* 4. 769; *Eng. Bot.* 427.
FOREIGN.—*Houblon grimpant*, Fr.; *Luppolo*, Ital.; *Hoblon*, Span.; *Hopfen*, Ger.

THE Hop is a perennial-rooted plant with an annual stem, and is the only species of the genus. It is a native of Britain and most parts of Europe, and is found in our hedges; flowering in June, and ripening its seeds in September.

From a branching root, rises several twining, rough, angular, flexible stems, which on poles, and in hedges, frequently reach the height of twenty feet or more. The leaves are opposite, in pairs, cordate, serrated, entire or lobed, scabrous, of a deep

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green colour, and sustained on long foot-stalks, which, as well as the leaves, are rough with minute prickles. Between the leaf-stalks are a pair of cordate, entire, reflected, smooth stipules. The flowers, which are on distinct plants, are axillary or terminal, and furnished with bracteas. The *males* are in drooping panicles of a pale green colour: the calyx consists of five oblong, concave minutely serrated leaflets: there is no corolla: the filaments are five, capillary, and very short with oblong anthers, opening at the apex by two pores. The *females* are in axillary stalked, drooping cones, or strobiles, composed of membranous scales of a pale greenish colour, and containing the germen, which is small, having two very short subulate, reflex styles, and awl-shaped downy stigmas. The calyx incloses the seed at its base, which is roundish, of a brownish colour, and truncated. Fig. (1) represents the male plant; fig. (2) the female. Fig. (*a*) is a male flower magnified; (*b*) the front of an anther considerably magnified, showing the two pores by which they open at top; (*c*) the back of an anther magnified; (*d*) a single scale of the catkin; (*e*) the germen with the two styles.

In the counties of Kent and Surrey, where the female plants are cultivated extensively, for the use of the brewers, the Hop-growers distinguish several varieties, as the early white, the long white, the oval, and the garlic Hop.

The Hop is also indigenous to America. Its use for the preservation of beer was first introduced from Flanders, in the fifteenth year, of Henry VIII. And Parkinson says, "the ale which our forefathers were accustomed only to drink, being a kind of thicker drink than beere, is now almost quite left off to be made, the use of Hoppes to be put therein, altering the quality thereof, to be much more healthfull, or rather physicall, to preserve the body from repletion of grosse humours, which the ale engendered." Like most innovations, the Hop had many enemies at first, Blith informing us, in his "English Improver Improved," p. 240, that the city of London petitioned parliament against two nuisances, viz. Newcastle coals "and Hops, in regard they would spoyl the taste of drink, and endanger the people."

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Culture.—For an account of the culture and management of the Hop the reader may consult "Loudon's Encyclopedia of Agriculture," and "Miller's Gardener's Dictionary," by Prof. Martyn.

Qualities and Chemical Properties.—The strobiles are picked when ripe, and are dried by artificial heat. They have a fragrant, aromatic, but oppressive odour; and a pungent, bitter, slightly astringent taste. By infusion in water these virtues are extracted; by distillation an essential oil is obtained; by boiling the aromatic properties are dissipated. "The watery infusion has a pale straw colour, is rendered muddy by the mineral acids; alkalies deepen its colour; it strikes an olive with the sulphate of iron; is precipitated by alcohol, solutions of acetate of lead, nitrate of silver, and tartarized antimony; and when rubbed with magnesia, or lime, a rod dipped in muriatic acid, discovers the presence of ammonia. The etherial tincture, when evaporated on water, leaves a pellicle of greenish, intensely bitter resin, and deposits some extractive."*

Dr. Ives of New York, has ascertained by various experiments, that Hops, by being beaten and sifted, yield a powder which he terms *lupulin*, that contains a very subtle aroma, which is taken up by water and alcohol, and which is rapidly dissipated at a high heat; that the lupulin contains an extractive matter which is soluble only in water; that it contains tannin, gallic acid, and a bitter principle which are soluble in alcohol and water; that it contains resin which is soluble in alcohol and ether, and wax which is soluble only in alkalies and boiling ether; that it contains neither mucilage, gum, nor gum resin; that the aromatic and bitter properties of the lupulin are more readily and completely imbibed by alcohol than by water, and much sooner by both when hot than when cold; that about five-eighths of the whole substance is soluble in water, alcohol, and ether, there being about three-eighths of it vegetable, fibrous matter; 120 grains of lupulin contain about

Tannin	5 gr.
Extractive matter .	10
Bitter principle . .	11
Wax	12
Resin	36
Lignin	46

Hops from which all the lupulin had been separated when acted

* Thompson.

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upon by water, alcohol, &c. gave a portion of extract which, however, possessed none of the characteristic properties of the hop:

Having ascertained that the lupulin was the only important part of the hop as regarded brewing, Dr. Ives next endeavoured to ascertain the quantity afforded by a given weight of hops: 6lbs. of hops from the centre of a bag were put into a light bag, and by thrashing, rubbing, and sifting, 14 ounces of lupulin were separated. It is supposed, therefore, that dry hops would yield about a sixth part of their weight of this substance.

Two barrels of beer were then made, in which 9 oz. of lupulin were substituted for 5 lbs. (the ordinary quantity) of hops. The result confirmed every expectation. Though the quantity of lupulin was less than usually enters into the same quantity of wort, and though the weather during June was unusually warm, and therefore unfavourable to the beer, still, at the end of five weeks, it was very fine. As a further experiment,—equal quantities of the beer were exposed in open phials to the sun, and a scruple of lupulin was added to one of them; this was unchanged at the end of fifteen days; the other became mouldy and sour in ten days.

The advantages which promise to result from the discovery that lupulin may replace the white hop in brewing, are, the diminished expenses of conveyance and storage, the facility of preserving it from the air, the non-absorption of wort by the hops, and the absence of a useless nauseous extractive matter which remains in the leaves.

Since Dr. Ives published his account, he has edited two editions of Dr. Paris's Pharmacologia, in the last of which he says: "Soon after the publication of my essay on the hop in 1819, I discovered the incorrectness of my deduction and statement, that the lupulin contained *no essential oil.* . . . . As to the general results of my experiments, detailed in my paper, I at that time attached importance to them, from the belief that they would ultimately lead to vast economical improvement, in the permanent preservation of the only valuable portion of the hop, and in the manufactory of malt liquors. So far as can be determined from its sensible properties, a quantity of lupulin which has been kept in bottles for three years, and which is now by me, has lost none of its aromatic flavour, nor is in any respect deteriorated by keeping. That the lupulin possesses all the virtues of the hop essential to the good quality and preservation of beer, is demonstrably evident from an experiment made in 1820, by an experienced and respectable brewer in this city. He obtained, by threshing and sifting, from a bag of hops weighing about 150 pounds, 21 pounds of lupulin. Of this, and the usual quantity of other ingredients, he made forty barrels of beer; the quantity into which he ordinarily put 150 pounds of hops. The summer following, and not less than four or five months after it was made, I had an opportunity of comparing this beer with that manufactured about the same time in the usual manner. The former was less bitter, but in no respect inferior to the latter. It would doubtless have been better than it was, had *all* the lupulin been separated from the hops used in the experiment, but that was impracticable. There can therefore now be no doubt of the correctness of my former opinion, that if any

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mechanical means can be devised, by which the lupulin may be easily, and readily, separated from the strobiles, it will consummate an improvement of incalculable value, in the preservation of hops, and the art of brewing."

The bitter principle of the Hop is soluble both in alcohol and water, while the extractive matter is soluble only in water; and M. Payer, and A. Chevalier, have confirmed Dr. Ives's assertion, that the properties of the Hop reside in the yellow grains scattered over the membranous scales of the female flower. They also discovered a volatile oil in lupulin, which is similar in odour to the Hop, but much more penetrating, narcotic, and very acrid in the throat. On account of its volatility, and solubility, to a great extent in water, it was not, at first, detected by Dr. Ives.

The following is M. Planche's method of purifying lupulin.

"To separate the sand from the lupulin, put it into water; shake it for a few minutes; decant that which is held in solution by the water, and a dark-coloured sand is deposited. Repeat the process several times, and spread the lupulin, which is insoluble in water, on bibulous paper; let it drain, and then dry it in the air, neither exposed to the sun, nor to a temperature above 76° (Faht.). It should be prepared yearly, and this cleansing process must be quickly conducted, or it will undergo a change."

The young shoots, blanched, are sometimes eaten as a substitute for asparagus; and from the *binds* coarse sacking has been manufactured, and a yellow dye extracted.

Economical Uses.—Hops are boiled in the wort, partly, to communicate their peculiar aromatic flavour; partly, to cover the sweetness of undecomposed saccharine matter, and in consequence of the gallic acid, and tannin they contain, to separate a portion of a peculiar vegetable mucilage, somewhat resembling gluten, which is diffused through the beer. The compound thus produced, separates in small flakes like those of curdled soap, by which the beer is rendered less liable to spoil; nothing contributing more to the conversion of beer, or of any other vinous fluid, into vinegar, than mucilage. Hence all full-bodied and clammy ales, abounding in mucilage, and which are generally ill fermented, are apt to run into the acetous fermentation.

Surrogates.—A compound of extract of quassia, and li-

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quorice, is used by brewers, to œconomise both malt and hops, and is termed "*multum*;" and for imparting an intoxicating effect, they dissolve an extract of cocculus indicus, which they call "*Black Extract*."* The following vegetable productions have been, and some of them still are, substituted in part for Hops; but as few of them contain tannin, and none in sufficient quantity, they simply impart a bitterness, unallied to the aromatic taste of the Hop, and possessing scarcely any of the chemical qualities for which that plant is more particularly employed in beer:—

Centaurea *benedicta*, blessed thistle,

Centaurea *calictrapa*, star-thistle,

Menyanthes *trifoliata*, marsh-trefoil, buckbean,

Teucrium *scorodonia*, wood-sage,

Glechoma *hederacea*, ground ivy, sometimes called ale-hoof, or tun-hoof,

Ginger, gentian, seeds of colocynth, broom, quassia, aloes, horehound.

Medical Properties.—Hops are generally considered to be tonic, diuretic, and somewhat narcotic. For the latter virtues they cannot be depended on; but in a woman we treated for a compound fracture of the tibia, a drachm of the tincture procured sound and refreshing sleep of several hours' duration, after most of the other narcotics had been given in large doses, ineffectually.

An infusion of the Hop has been occasionally recommended in the place of the decoction of sarsaparilla, but is a substitute, on which we should place but little reliance. Dr. Chapman of America, in his "Therapeutics," recommends it for nephritis, and for spasmodic pains of the uterus, occurring after parturition; and Dr. Maton speaks highly of the utility of Hop in atbritic rheumatism, and asserts that it allays pain, produces sleep, and allays the frequency of the pulse, at the same time that it increases its firmness. Externally, a decoction of Hop has been advantageously used for painful tumefactions, and the

* Accum.

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powderr ubbed up with lard, was recommended by the late Mr. Freake, as an application to cancerous ulceration. A cataplasm made of an infusion of the dried strobiles, has been applied to ill-conditioned and sloughing ulcers with decided benefit.

"With regard to the medicinal efficacy of Hops, (says Dr. Ives,) every accurate observer must acknowledge, that they possess little merit, if administered according to the directions given in our pharmacopœias. The quantity of proof spirit given in the tincture, would produce stimulating effects, independent of any properties which it imbibes from the Hops; and, although its action may be modified by their combined agency, so as, in some measure, to increase the cordial and invigorating influence of the alcohol, it is difficult to conceive, that the tonic, or narcotic virtues of the Hop, should be sufficiently concentrated, to produce much remedial benefit. It is otherwise with the pharmaceutical preparations of the *lupulin* which I have been accustomed to prescribe. Pretty extensive observation has confirmed my former opinion, that diseases which are the consequence of exhausted excitability, or more directly, of a deranged state of the stomach and bowels, are certainly much relieved by this medicine. It frequently induces sleep and quiets nervous irritation, without causing costiveness, or impairing, like opium, the tone of the stomach, and merely increasing primary disease. The preparation most commonly used in this city, is the tincture prepared by digesting ℥ij of the lupulin in 0j of alcohol. Dose from ʒj to ʒij.

Inquietude and watchfulness, connected with excessive irritability in all its gradations, from the restlessness consequent upon exhaustion and fatigue, to the most uncontrollable paroxysm of delirium tremens, are more frequently allayed by this remedy than any other in ordinary use. Another eligible mode of exhibiting the lupulin is in pills. From two to four pills, each containing three grains of the powder, may be given at a dose. Dr. Desroches, who published a Dissertation on the Hop in 1803, supposed that its narcotic principle resided in the essential oil; but is it not more than probable that this was a conjecture arising from the imaginary soporific virtues of the Hop pillow. It requires much

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experience, and accurate observation, to speak confidently upon the subject; but from having frequently used the lupulin collected from old Hops, in which little aroma seemed to remain, and also the extract prepared by decoction, by which process the essential oil is chiefly dissipated, I am still of opinion, that its narcotic properties are in the resinous extract."

Dose.—The dose of the extract may be from five to ten grains; of the tincture from half a drachm to a drachm, once or twice a day.

Off. Prep.—Extractum Humuli. *L.*
Tinctura Humuli. *L. E.*

Formulæ.

Powder of Lupulin.—Take of Lupulin 1 part.
White sugar 2 parts.

Rub the sugar into a coarse powder, then add the lupulin to it by degrees, and blend them intimately together. In the Pharmacopée Française, this is called M. Magendie's form, and the sugar appears to be added merely to divide the lupulin, which forms an adhesive mass by being beat. Such a mass is easily formed into pills, and is the best preparation of lupulin that can be used, if we wish to rely simply on its effects.

" *Tincture of Lupulin.*
Take of Lupulin . . . ℥j.
Alcohol . . . ℥ij.

Digest for six days in a close vessel, press out the liquor, filter it, and add a sufficient quantity of alcohol to make ℥iij of tincture." Previously to maceration, the lupulin should be divided, by beating it up with sand. The *dose* may be from thirty drops, to a drachm.

Syrup of Lupulin.
Take of Alcoholic Tincture of Lupulin 1 part.
Simple Syrup . . . . . 7 parts.

Pommade de Lupuline.—(Pharmacopée Française.)
Take of Lupulin, bruised 1 part.
Lard . . . . 3 parts.

Dissolve in a warm bath, and strain it through a lawn sieve. This ointment is recommended as a substitute for that of Mr. Freake's, already adverted to.

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Sinapis

nigra. alba.

W. Clark del. et sculp.

London Published by John Churchill Leicester Square Nov.1827

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SINAPIS ALBA.

White Mustard.

Class XV. TETRADYNAMIA.—*Order* II. SILIQUOSA.

Nat. Ord. SILIQUOSÆ, *Lin.* CRUCIFERÆ, *Juss.*

GEN. CHAR. *Pod* nearly cylindrical, with 2-valves. *Seeds* subglobose. *Calyx* spreading.

SPEC. CHAR. *Pods* hispid, spreading, shorter than the broad ensiform beak. *Leaves* lyrate.

Syn.—Sinapi album aliquâ hirsutâ, semine albo vel rufo, *Raii Syn.* 295; *Bauh. Hist. v.* 2. 858. *f.*
Sinapi album, *Ger. Em.* 244. *f.*
Sinapi primum genus, *Fuchs. Hist.* 538. *f.*
Sinapi secundum, *Matth. Valgr. v.* 1. 515. *f.*; *Camer. Epit.* 333. *f.*
Sinapi, n. 466. *Hall. Hist. v.* 1. 203.
Sinapis alba, *Lin. Sp. Pl.* 933; *Willd. v.* 3. 555; *Fl. Brit.* 721; *Curt. Lond. fasc.* 5. *t.* 46; *De Cand. Syst. v.* 2. 620; *Stokes v.* 3. 474.
FOREIGN.—*Moutarde*, Fr.; *Senape bianca*, Ital.; *Grano de Mostaza*, Sp.; *Senfsamen*, Ger.; *Gortschiza*, Russ.; *Kabar*, Arab.

THERE are two species of Mustard admitted into our national pharmacopœias: the White Mustard, *sinapis alba*, and the Black, or Common, *sinapis nigra*. Both are indigenous annuals, growing naturally in fields, and both have been cultivated here, and in most parts of Europe for an unknown period. The White Mustard flowers in June, and ripens its seed in July.

White Mustard has a small tapering root. The stem is erect, branched, rough, with slender reflexed hairs, and rises to the height of about two feet. The leaves are lyrate, deeply cut, roughish, and of a bright green colour. The flowers are yellow, and form terminal spikes, or racemes, each having four petals disposed in the form of a cross. The leaves of the calyx are

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linear, green, and spread horizontally. The filaments, germen, and pistil, resemble those of the following species. The flowers are succeeded by short, two-edged, very tumid pods, spreading on nearly horizontal stalks, rough, with numerous minute refexed bristles, interspersed with larger upright ones; the beak is longer than the pod, is bristly, sword-shaped, curved upwards, and terminated by the compressed style and cloven stigma. The seeds are rather large, few, and of a pale yellowish brown colour. Fig. (*a*) represents a lower leaf; (*b*) the stamens, pistils, and glands; (*d*) a pod, or silique.

SINAPIS NIGRA.—*Common Black Mustard.*

GEN. CHAR. See *Sinapis Alba.*

SPEC. CHAR. *Pods* quadrangular, smooth, pressed to the stem. *Lower leaves* lyrate; *upper* linear-lanceolate, entire, smooth.

Syn.—Sinapi sativum secundum, *Raii Syn.* 295; *Ger. Em.* 244.
Sinapi siliquâ latiusculâ glabrâ semine rufo, sive vulgare, *Bauh. Hist. v.* 2. 855. *f.*
Sinapi sativum primum, *Ger. Em.* 244; *Dod. Pempt.* 706.
Sinapi primum, *Matth. Valg. v.* 1. 514. *f.*; *Camer. Epit.* 332. *f.*
Sinapi n. 465; *Hall Hist. v.* 1. 202.
Sinapis nigra, *Lin. Sp. Pl.* 933.; *Willd. v.* 3. 555.; *Fl. Brit.* 722.; *Woodv. t.* 151.; *De Cand. Syst. v.* 2. 608; *Stokes*, 3. 475.
FOREIGN.—*Senevè*, Fr.; *Senape*, Ital.; *Mostaza nigra*, Span.; *Schwarzer Senfe*, Ger.

COMMON Mustard sends up a smooth, branched stem, which is taller and more spreading than the preceding, to the height of three or four feet. The *lower* leaves are large, lyrate, rough, variously lobed and toothed; the *upper* ones petioled smooth, lanceolate, entire, and spreading or hanging downwards. The flowers are pale yellow, and smaller than the preceding. The calyx is yellowish and spreading; petals obo-

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vate; filaments simple, erect, supporting oblong anthers; germen cylindrical, tapering into a short style, which is crowned with a knobbed stigma. The pods are small, smooth, obtusely quadrangular, pressed close to the stem, and terminated by the permanent style and capitate stigma. The seeds are numerous, round, shining, and of a dark brown colour. The French call the plant "*senevè*," and confine the term "*moutarde*" to prepared table mustard.—Fig. (*c*) represents a pod or silique of common mustard burst open, shewing the situation of the seeds.

The generic name Sinapis, which occurs with slight variations in the orthography, in the works of Plautus, Pliny, and Columella, is retained in our modern nomenclature from these celebrated authors. Theophrastus and Dioscorides call it Σινηπι. It is met with also under the terms σιναπι and ναπυ; παρα το σινεσθαι τους ωπας, from its pungency affecting the eyes. De Theis conjectures that this word comes from *Nap*, a Celtic name for all plants allied to the radish. The colour of the respective seeds suggested the trivial appellations alba, and nigra.

Distinctive Characters.—The difference in point of form betwixt the leaves and pods of the present species, and those of the preceding sort, distinguish the two plants at once. The Black Mustard is a taller plant than the white; the upper leaves of the black are narrow and pendent, the flowers small, the pods quite smooth, and lying close to the stem; while, in the white, the flowers are large, the pods rough or hairy, and standing out from the stalk.

As *substitutes* for either the black or common Mustard, most of the Cruciferæ may be used, especially the Sinapis *arvensis*, Myagrum *sativum*, Sisymbrium *officinale*, the Erisymum, Lepidium, Turrites, Brassica, Sinapis *orientalis*, *Chinensis* and *brasicata*: the latter is commonly cultivated in China. The Raphanus *Raphanistrum*, or wild radish, is said to be so complete a substitute, that the seeds are often separated in the process of cleaning grain by farmers, and sold to the mustard or oil millers, who dispose of it as Durham Mustard.

Qualities and Chemical Properties.—The seeds of both the black and white mustard agree in their sensible qualities, and are used indiscriminately at our tables. They are pungent and acrimo-

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nious when bruised, and by the addition of vinegar become much more so. A mild oil, which soon turns rancid, is yielded by expression, the acrid matter being retained by the fecula. Unbruised, they simply yield mucus to boiling water, which resides in the skin. Water takes up all the active properties of the powder of mustard, and alcohol but little. They yield ammonia by trituration with lime water, and their other constituents are stated to be mucus, starch, a bland fixed oil, and an acrid volatile oil. The French chemists state that they have separated the active principle in the shape of a salifiable base, but we are unable to give the particulars.

Medical Properties and Uses.—A large tea-spoonful of the powder of mustard seed mixed in water, produces vomiting, and on account of its stimulating properties, is perhaps preferable to other emetics, when the stomach has been rendered torpid, by apoplectic, or paralytic affections. It is even asserted that it has acted in such cases, when other emetics have failed; and diffused in a large quantity of warm water, it is always a useful auxiliary to them. The unbruised seeds, swallowed in doses of half an ounce to an ounce, have relieved chronic rheumatism, and taken in the same manner, are a popular remedy for amenorrhœa and chlorosis. Bergius, who is extremely fond of combining other agents with cinchona bark, says that its activity is much increased, by being mixed with flower of mustard, and he even asserts that he has cured intermittents solely by its use. The great Boerhaave, also, gives the case of a girl at Amsterdam, who after taking a variety of medicines for chorea, was at last restored to perfect health by white mustard seeds. They are proper, he observes, in hypochondriac affections, obstructions of the liver, and spleen, in dropsy, scurvy, cachexy, and chlorosis. Combined with horse radish, they are stimulant and diuretic, and as such are useful in broken down constitutions. In cases of dyspepsia, attended by habitual costiveness in leucophlegmatic constitutions, two or three tea-spoonsful of the whole seed, repeated two or three times a day, will frequently prove beneficial, by stimulating the chylopoietic viscera to a regular performance of their functions: but the injudicious manner in which their virtues have lately been lauded, has led to the abuse of a useful remedy, which in improper hands, has produced ulceration of the mucous membrane of the stomach, and intestines, and other serious consequences. In typhus fever, when there is extreme depression of the vital powers, or determination of blood to the head; and in comatose affections, cataplasms, or sinapisms, as they are more often termed, composed of equal parts of flower of mustard and of crumbs of bread, made into a paste with hot vinegar, are applied to the feet, and act as powerful rubefacients. If continued too long, very intense pain is produced by them, and inflammation, which it is difficult to subdue.

Off. Prep.—Cataplasma Sinapis. *L. D.*

*** Whitehead's "Essence of Mustard," consists of oil of turpentine, camphor, and spirits of rosemary; to which is added a little flour of mustard. His "Essence of Mustard Pills" are Balsam of Tolu, with resin!

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. Amygdalus communes

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AMYGDALUS COMMUNIS.

The Common Almond-tree.

Class XII. ICOSANDRIA.—*Ord.* I. MONOGYNIA.

Nat. Ord. POMACEÆ, *Lin.* ROSACEÆ, *Juss.*

GEN. CHAR. *Calyx* 5-cleft. *Petals* 5. *Drupe* with a nut perforated.

SPEC. CHAR. The lower serratures of the leaves glandular; the flowers sessile, and in pairs.

Syn.—Amygdalus *Park. Theatr.* 1515; *Ger. Em.* 1445.
Amygdalus amara et dulcis, *Bauh. Hist.* 1. 174.
Amygdalus foliis glabris, *Hall. Stirp. Helv.* n. 1080.
Prunus Amygdalus, *Stokes, Bot. Mat. Med.* 3. 101.
Amygdalus communis, *Lin. Sp. Pl.* 677; *Willd.* 2. 982; *Woodv.* 2. 230. *t.* 83.
FOREIGN.—*Amandes douces et amares*, Fr.; *Mandorli dolce et amore*, Ital.; *Almendra*, Span.; *Bittere und Susse Mandeln*, Ger.; *Ba-da-mie Farsie*, Hind.

THE Almond-tree is a native of Syria, but is now completely naturalized in the south of Europe, and will even perfect its fruit in the most favourable parts of our island. In this country, however, it is raised chiefly on account of its being highly ornamental in shrubberies, plantations, and other descriptions of pleasure-grounds, from its coming into bloom early in the spring, before the leaves are expanded.

This tree rises to the height of about twenty feet, is much branched, and covered with a greyish bark. The leaves, which considerably resemble those of the peach, are three or four inches long, elliptical, petioled, narrow, pointed at each end, serrated,

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with small glands at the base, and of a bright green colour. The flowers are in numerous pairs, sessile or on very short foot-stalks, varying in colour from rose-red to snow-white, and appear in March and April. The calyx is tubular, reddish externally, and divided at the margin into five blunt segments: the corolla consists of five ovate, concave petals, irregularly notched and waved at the edges, and inserted by narrow claws into the calyx; the filaments about thirty, cylindrical, unequal, shorter than the corolla, inserted into the calyx, and furnished with roundish orange-coloured anthers; the germen is downy at the base, with a short, simple style, supporting a round stigma. The fruit, as well as the leaves, resemble those of the peach-tree, a species of the same genus; but is more flat, and instead of possessing the rich pulp of the latter, has a tough coriacious covering, which opens spontaneously at the longitudinal furrow, when ripe. The kernel, which is the Almond of the shops, is inclosed in an oblong, flattish, brittle, spongy shell, of a brown colour, pointed at one end, and composed of two cotyledons enveloped with a thin brown skin. Fig. (*a.*) represents the pistil; *(b)* a portion of the calyx, shewing the insertion of the stamens; *(c)* the front view of an anther magnified, *(d)* the back of an anther; *(e)* the shell, *(f)* the kernel, or almond.

The Almond-tree is common in China, and most parts of Asia, as well as in Barbary, where it is a native. In the south of France it is much cultivated, especially in Provence and Dauphinè, for the sake of the fruit, which is rarely matured in England. Cato termed almonds *Nuces Græcæ*, or Greek nuts, from which it is inferred that the tree was not cultivated in Italy, in his time. It appears, however, to have been known at a very remote period, and is mentioned by Hippocrates, Theophrastus, and other ancient authors. It was cultivated in England by Lobel previously to the year 1750; and is a great favourite in the shrubbery, blossoming sometimes as early as February, and forming a most enchanting harbinger of spring.

Of the Almond we have two sorts, the sweet and bitter, which are the produce of mere varieties of the same species, although the fruits themselves differ so much in their sensible properties.

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The kinds of Almond chiefly cultivated for their fruit are, the common sweet Almond; the tender shelled; hard shelled; sweet Jordan; and bitter Almond.

"Sweet Almonds are imported in mats, casks, and cases: the bitter, which come chiefly from Magadore, arrive in boxes. When the Almond is not well preserved, it is preyed on by an insect that eats out the internal part; or, if this does not happen, the oil it contains is apt to become rancid."

Qualities and Chemical Properties.—The kernel of the fruit of the Sweet Almond, is inodorous, and farinaceous, and contains a large proportion of oil, which is more pure, and less rancid, than olive oil.* M. Boullay's analysis is as follows:

Oil	54	
Albumen	24	
Sugar (fluid) . . .	6	
Fibre	4	
Gum	3	
Pellicles	5	
Water	3	5
Acetic acid and loss .		5
	100	

Previously to being used, Almonds are decorticated, or blanched, by putting them in boiling water.

"The *bitter almond*, is also inodorous when entire, but when triturated with water, has the odour of the fresh blossom; and the taste is the pleasant bitter of the peach kernel." The expressed oil of bitter almonds, does not differ from that afforded by the sweet; both sorts, are therefore used indiscriminately; but the remains of the former, after expression, retain all their peculiar virtues, and bitterness. M. Vogel, in his experiments

* It is on account of this property that the oil of almonds is much used in perfumery, and in the composition of nostrums for the hair: thus *Macassar oil* consists merely of oil of almonds coloured red with alkanet root, and flavoured with oil of cassia: *Russia oil* is oil of almonds rendered milky by the addition of a small portion of ammonia or potash, and scented, we believe, with oil of roses.

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on, and analysis of the bitter Almonds, gives the following proportions of the substances in 100 parts.

Peelings	8 5
Fixed oil	28
Albumen	30
Sugar	6 5
Gum	3
Parenchyma vegetable .	5
Essential oil and prussic acid	

The *essential oil* is best obtained by distilling Almond-water with barytes, to separate the prussic acid. In close vessels it is very volatile; exposed to the air, it becomes solid, crystalline, inodorous, and of considerable fixity. The crystals are a compound of it with oxygen, for oxygen is absorbed during the fermentation, and if they are dissolved in hydro-sulphuret of ammonia, they are again decomposed, and the original odour, and oil are produced. M. Robiquet, led by his own particular views of aroma, which are fully detailed in Vol. X. p. 109, of the Journal of Science, attributes the loss of odour, to the loss of ammonia; and its restoration, to the ammonia, added in the hydro-sulphuret.

"With a view to illustrate the true cause of the phenomena, M. Robiquet lately experimented on this subject. He found, that instead of taking place in a few minutes, the crystallization sometimes required several days; and, in consequence, he was led to distil the oil, collecting the results in different portions. In this way he found, that the first portions underwent no change in contact with the air, but that the last portions crystallized immediately on exposure to it, or to oxygen, with absorption of the gas; whilst in nitrogen, hydrogen, carbonic acid, or in the torricellian vacuum, no change took place.

"By further examination, it was ascertained that the most volatile portion of the oil contained nitrogen, as an element; for when boiled with solution of potash, it gave prussiate of potash, and when heated with oxide of copper, nitrogen. The less volatile and crystallizable parts contained no nitrogen; and when pure and in crystals, it was found that the odour of bitter almonds was not given to them by hydro-sulphuret of ammonia. The crystalline matter appears to be an acid substance; it reddens litmus; it is soluble in boiling water, and crystallizes by cooling; it is fusible, and readily volatile; it unites to alkalies, and appears to have no analogy with the oil from which it is derived.

"These two parts of the oil of bitter almonds, when examined as

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to their action on the animal economy, were found entirely different; the more volatile was excessively poisonous, but the crystallizable matter was quite inert. M. Robiquet, in considering the nature of the principle containing nitrogen, is inclined to consider it as different from prussic acid, though readily convertible into it. Fixed alkalies, for instance, exert no action on it when cold, though at high temperatures they readily form prussiates, and a crystalline substance very different from that already described. Another acid, and a resinous matter, is also found at the same time.

"M. Robiquet, in a note, considers the oil of the cherry laurel as identical with that of bitter almonds.—*Ann. de Chim.* xxi. 250."

POISONOUS EFFECTS. It will be seen, from the following interesting details, that the bitter almond, given in substance, is exceedingly poisonous, and the distilled water causes an action resembling that of laurel water, producing vertigo, headache, dimness of sight, vomiting, and occasionally epilepsy.

"A cat, two months old, swallowed a drachm of bitter almonds pounded. In a short time after, it dragged along its hind legs, became paralytic, and experienced four attacks of epilepsy. In the evening, the respiration became panting, and it died. The stomach was red at its orifices, and contained mucus: the heart and auricles were filled with fluid blood; there was an effusion of blood throughout all the right side.—*Orfila.*

"Some pigeons were made to take somewhat less than a drachm of bitter almonds pounded; they walked about for a few minutes; but in a short time their crops and necks swelled out, their feathers became erect: at length they fell down as if epileptic; their heads were reflected upon the back; they remained motionless, and senseless, and soon expired. The œsophagus was found somewhat inflamed, very much dilated, and full of mucus; the duodenum contained chyle, viscid and yellow; the blood in the sub-axillary vessels was fluid, and of a vermillion colour; the cerebellum was distended with blood; the lungs appeared sound.—WEPFER, *De Cicuta aquatica,* pp. 239 and 241.

"Twenty bitter almonds, each of them cut into three pieces, were introduced at noon into the stomach of a small robust dog: the œsophagus was then tied. At the end of an hour and a half, the animal began to experience vertigoes, and weakness of the posterior extremities. He died at six in the evening. The *Dissection* took place an hour after. The animal was still warm; the heart no longer contracted, and contained a very small quantity of blood; the lungs were greyish, the stomach, which was sound, contained the fragments of the almonds, and exhaled a strong smell of Prussic Acid, whilst, before the ingestion, these seeds were devoid of smell; the duodenum was lined with a substance similar, for its texture and colour, to the yellow matter of the bile; no lesion was perceived in the digestive canal."—*Orfila.*

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" One drop of the essential oil of bitter almonds (says Mr. Brodie) was applied to the tongue of a young cat. She was instantly seized with violent convulsions; then lay on the side motionless, insensible, breathing in a hurried manner; the respirations became laboured, took place at longer and longer intervals, and at the end of five minutes from the application of the poison had entirely ceased, and the animal was apparently dead; but on opening the thorax, the heart was found acting regularly eighty times in a minute, circulating dark-coloured blood, and it continued to act for six or seven minutes afterwards.

" I injected into the rectum of a cat, half an ounce of water with two drops of the essential oil. In two minutes afterwards he was affected with symptoms, similar to those which occurred in the last experiment; and, at the end of five minutes from the injection of the poison, he was apparently dead. Two minutes after apparent death the heart was found acting eighty times in a minute. On *dissection* no preternatural appearances were found either in the internal membrane of the rectum, or the brain. The symptoms produced by this poison, and the circumstance of the heart continuing to contract after apparent death, lead to the conclusion, that it occasions death by disturbing the functions of the brain.

" While engaged in these last experiments, I dipped the blunt end of a probe into the essential oil, and applied it to my tongue, meaning to taste it, and having no suspicion that so small a quantity could produce any of its specific effects on the nervous system; but scarcely had I applied it, when I experienced a very remarkable and unpleasant sensation, which I referred chiefly to the epigastric region, but the exact nature of which I cannot describe, because I know nothing precisely similar to it. At the same time there was a sense of weakness in my limbs, as if I had not the command of my muscles, and I thought that I was about to fall. However, these sensations were momentary, and I experienced no inconvenience whatever afterwards.

" From the instantaneousness with which these effects are produced; and from its acting more speedily when applied to the tongue, than when injected into the intestine, though the latter presents a better absorbing surface, we may conclude that this poison acts on the brain through the medium of the nerves, without being absorbed into the circulation."

From other experiments Mr. Brodie ascertained that the effects of the essential oil of almonds when applied to a wound, are not so instantaneous as when applied to the tongue; otherwise there is no difference in its effects, in whatever manner it is applied.

Dioscorides, Fœnisius, Matthiolus, Tabernæmontanus, Vicat, and others, narrate instances of foxes, squirrels, fowls, cranes, ducks, canary-birds, and weazles, being killed by bitter Almonds.

TREATMENT.—See TOBACCO, *art.* XXXVII.

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MEDICAL PROPERTIES AND USES.—Almonds are demulcent, and the expressed oil is sometimes converted into an emulsion, by triturating it with mucilage and sugar, and gradually adding distilled water; the diffusion is, however, not very perfect, but a combination more complete and permanent is effected, by adding a few drops either of liquor ammoniæ, of liquor potassæ, or a few grains of the subcarbonate of potass, to the oil, swimming on the water, and without the mucilage. A more elegant emulsion is produced by the confection of almonds, which forms a useful vehicle for tincture of squills or of opium; and is advantageously administered for tickling coughs, for irritation of the urinary organs, especially if produced by blisters, and likewise for common drink, where the mucous membrane of the stomach has been irritated by corrosive poisons. By triturating camphor and the resins with almonds, they are rendered miscible with water. Sweet almonds, when fresh and free from rancidity, are much used as an article of diet, and when taken in moderate quantities are sufficiently nutritive and wholesome. Yet too freely indulged in, they are of difficult solution and digestion, and are very apt to disagree. They occasionally bring on an attack of urticaria febrilis; indeed, so powerful is this effect on one of our pupils, that three or four produce that disease in a most marked and violent manner; his whole skin being covered with weals.

Bitter Almonds have been extolled by Bergius as a remedy for intermittent fever, when mixed with decoction of bark, and he says, "Sed vidi subinde febres protractas, multis recidivis molestas, et quæ chinchinam penitus eluserant, sola tandem emulsione amara curatas." Dr. Mylius of Russia, has successfully administered, for the same disease, from a drachm and a half, to two drachms, formed into an emulsion with three ounces of water. An emetic was first prescribed, and the dose given one hour before the accession of the fit. Out of twenty-seven subjects labouring under quotidian, and quartan fevers, two were cured after the second dose; four after the third; nine after the fourth; four after the fifth; four after the sixth; two after the seventh; one after the eleventh; and

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one after the twelfth. They suffered neither relapse, nor consecutive disease; and the effects are attributed to the prussic acid they contain.* On account of the same property, pulmonary, and dyspeptic symptoms, have been benefited by them in our own practice; and obstinate chronic eruptive diseases sometimes yield to their external application in the form of emulsion, to which quacks frequently add the oxymuriate of mercury.† Like the Sweet Almond, they occasionally produce *urticaria*, if taken in the smallest quantity. Plutarch mentions a great drinker of wine, who by their use, escaped intoxication; the modern Italians sometimes eat them for the same purpose; and it is said that the Egyptians purify the muddy water of the Nile, by putting it into jars, rubbed inside with a paste composed of them. At the Cape of Good Hope, the wood of the Almond-tree is made into lasts and heels for shoes.

Off. Prep.—Oleum Amygdalæ. *L. E. D.*
Emulsio Amygdalæ Comp. *E. D*
Emulsio Acaciæ Arabicæ. *E. D.*
Emulsio Camphoræ. *E.*
Confectio Amygdalarum. *L.*

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* Russische Samnlung dur Naturweissen-schaft, &c.

† The nostrums for eruptions and cutaneous diseases, sold under the title of *Gowland's Lotion*, *Milk of Roses*, *Caledonian Cream*, *Kalydor*, &c. consist merely of a solution of the oxymuriate of mercury in almond emulsion, with a proportion of sugar of lead, or white oxyde of bismuth. They are thus possessed of certain stimulant and repellent properties, and though blunted in part by the medium in which they are involved, cannot fail to be highly active on the skin, and consequently injurious.

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Capsicum annuum.

W. Clark, del. et sculp.

London, Published by John Churchill, Leicester Square, Nov.r 1827

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CAPSICUM ANNUUM.

Annual Capsicum, or Guinea Pepper.

Class V. PENTANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. LURIDÆ, *Lin.* SOLANEÆ, *Juss.*

GEN. CHAR. *Corolla* wheel-shaped. *Berry* juiceless, with 2-cells.

SPEC. CHAR. *Stem* herbaceous, peduncles solitary: fruit oblong.

Syn.—Piper Indicum vulgatissimem. *Bauh. Pin.* 102; *Raii. Hist.* 676.
Piper Calecutium sive Capsicum oblongius, *Bauh. Hist.* v. 2. 943.
Capsicum longioribus siliquis, *Ger. Em.* 364.
Capsicum majus vulgatius, oblongis siliqus, *Park. Theatr.* 355.
Vallia-capo-molago, *Rheede Malab.* ii. t. 35.
Piper Indicum vulgatissimum, *Murr, App. Med.* i. 475.
Capsicum annuum, *Lin. Sp. Pl.* 270; *Willd.* i. 1050; *Hort. Kew.* i. 253; *Woodv.* 391. *t.* 144; *Stokes*, i. 408.

FOREIGN.—*Poivre d'Inde*, Fr.; *Pepperone*, It.; *Pimienton*, Sp.; *Spaaisdier oderturkircher pfiffer*, Ger.; *L'ul Mirch*, Hind.

GUINEA PEPPER grows naturally in both the Indies. It appears to have been long known in this country, being mentioned by Gerarde; but the date of its introduction has not been precisely ascertained. It is frequently cultivated in our gardens as an ornamental plant, and also for the sake of the young pods or berries, which make a favourite pickle. The flowers appear at the same time with the fruit, and are produced from July to September.

The plant rises two feet high; is herbaceous, crooked, much branched, and has a smooth striated, somewhat angular stem.

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The leaves are ovate, acuminate, smooth, entire, of a dark green colour, and stand irregularly on long foot-stalks. The flowers are solitary, petioled, proceed from the axillæ of the leaves, and of a dirty white colour: the calyx is persistent, tubular, and divided into five short segments; the corolla is monopetallous, wheel-shaped, consisting of a short tube, divided at the limb into five segments, which are spreading, pointed, and bent inwards at the margin: the filaments are five, shorter than the corolla, with oblong anthers; the germen is ovate, surmounted by a slender style, which is longer than the filaments, and terminated by a blunt stigma. The fruit is a long pendulous inflated pod or berry, smooth, shining, of a crimson or yellow colour, two-celled, containing a whitish spongy pulp, and numerous flat kidney-shaped seeds. Fig. (*a*) represents the germen and pistil; (*b*) the corolla spread open to shew the insertion of the stamens into the corolla.

This species of capsicum varies greatly in the size, form, and colour of its berries. In some instances they are long and conical, or short and obtuse; in others, heart-shaped, bell-shaped, or angular; they vary also in colour, being generally of a bright red, but sometimes orange or yellow.

The generic name, Capsicum, is supposed to be derived from καπτω, to bite, on account of the pungency of the fruit; or from *capsa*, a chest, in allusion to the form and structure of the pericarp.

Economical Uses.—All the species yield a spice of the most pungent quality, but the well known condiment sold under the name of Cayenne Pepper is prepared from the fruit of the Capsicum baccatum, or Bird-pepper, which is a shrubby plant, of humble growth, not unlike the present species, but producing small ovate berries. These are gathered when ripe, are dried in the sun, pounded, and mixed with salt. The composition is then put into stopped bottles, and is commonly known by the name of "Cayan Butter."

A mixture of sliced cucumbers, eschalots or onions, cut very small; a little lime juice, or madeira wine; with a few pods of Bird-pepper well mashed and mixed with the liquor, seldom fails

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to excite the most languid appetite, where, in the West Indies, it is called *man-dram*. A useful, and elegant condiment, is made by dissolving common salt in a strong infusion of capsicum, previously strained, and afterwards allowing it to crystallize.

CULTURE.—The annual capsicums are propagated by seeds, which must be sown upon a hot-bed in the spring; and when the plants have six leaves, they should be transplanted on another hot-bed, at four or five inches distance, shading them in the daytime from the sun until they have taken root, after which they must have air freely admitted to them in warm weather, to prevent their running up weak. Towards the end of May, the plants must be hardened, by degrees, to bear the open air; and in June must be carefully taken up; preserving as much earth about their roots as possible; planting them into borders of rich earth; observing to water them well, and shading them till they have taken root; after which time, they will require no other management, but to be kept free from weeds, and in very dry seasons to refresh them three or four times a week with water. They will flower the end of June and July, and their fruit ripens in autumn.

QUALITIES AND CHEMICAL PROPERTIES.—Capsicum is of a fiery hot, somewhat aromatic taste, and has an extremely pungent odour. These properties are partially yielded to water, but more completely to æther and spirit. It contains cinchonin, resin, mucilage, and an alkaline principle discovered by M. Forchhammer, which is extremely acrid, more soluble in water, and has a greater capacity of saturation than the other vegetable alkalies. It forms a triple salt with the protoxide of lead and muriatic acid, which is as acrid as the alkali itself.* Precipitates are produced in the infusion of capsicum, by infusion of galls; nitrate of silver; oxymuriate of mercury; acetate of lead; the sulphates of iron, copper, and zinc; ammonia, carbonate of potass, and alum: but not by sulphuric, nitric, or muriatic acid.

ADULTERATIONS.—Red lead, which is sometimes mixed with powdered capsicum, may be detected by digesting it in acetic acid, and adding to the solution sulphuret of ammonia, which will produce, if any lead be present, a dark-coloured precipitate; or the fraud may be discovered by boiling some of the suspected pepper in vinegar, and after filtering the solution, adding to it sulphate of soda, when a white precipitate will be formed, which, after being dried and exposed to heat, and mixed with a little charcoal, will yield a metallic globule of lead.†

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* Journal de Physique, 1820, p. 173.
† Accum; Thompson.

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Medical Properties and Uses.—Capsicum is a powerful stimulant, and is most advantageously given in atonic gout, in palsy, tympanites, dropsy, and in the debilitated stages of fever. From five to ten grains, in a pill, is the usual mode of administration; and although it is the hottest of all peppers, it has but little tendency to affect the head: it is therefore a useful stimulant in dyspepsia, and is an admirable carminative for flatulency from vegetable food. It may be advantageously combined with steel in scrofulous constitutions, and is much used as an adjunct to cinchona bark for intermittents. "Its sensible effects are heat in the stomach, and a general glow all over the body, without much affecting the pulse; and as a gargle it cleans, without impeding the healing of the ulcers of the fauces." A weak infusion is a useful stimulant to scrofulous and fistulous ulcerations: the pods are sometimes employed as an ingredient in rubefacient cataplasms for the feet, to relieve the coma of fever; chronic ophthalmia is sometimes benefited by a weak infusion; but the gargle, when applied to cynanche, has occasionally produced violent inflammation, not easy to be controlled.

Dose.—From twelve drops to half a drachm: and ʒij, to half a pint of water, form a good gargle.

Off. Prep.—Tinctura Capsici. *L. D.*

*** Rymer's Cardiac Tincture, is said to be composed of an infusion of capsicum, camphor, cardamon seeds, rhubarb, aloes, and castor in proof spirit, with a very small quantity of sulphuric acid.

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Pl. 45

viridis

Puleg

W. Clark, del. et sculp.

London, Published by John

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Pulegium — Piperita.

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MENTHA PIPERITA.

Pepper Mint.

Class XIV. DIDYNAMIA.—*Order* I. GYMNOSPERMIA.

Nat. Ord. VERTICILLATÆ, *Lin.* LABIATÆ, *Juss.*

GEN. CHAR. *Corolla* not quite equal, 4-lobed. *Stamens* erect, spreading.

SPEC. CHAR. *Spikes* blunt, interrupted below. *Leaves* stalked, ovate, smoothish. *Calyx* very smooth at the base.

Syn.—Mentha spicis brevioribus, &c. *Raii Syn. ed.* 3. 234. t. 10. f. 2.
Mentha aquatica sive Sisymbrium, *Bauh. Hist.* v. 3. *p.* 2. 223. f.
Mentha piperita officinalis, *Sole Menth. Br.* 15. t. 7.
Mentha piperita, *Willd. Sp. Pl.* v. 3. 79; *Smith Tr. of Lin. Soc. v.* 5. 189; *Fl. Brit.* 613; *Eng. Bot. v.* 10. *t.* 687; *Woodv. t.* 169; *Stokes, v.* 3. 317.
FOREIGN.—*Menthe poivrée*, Fr.; *Menta piperita, It.; Ofeffermünze*, Ger.

SEVERAL species of Mint are cultivated for medicinal and culinary uses. Of these the most important are Pepper Mint, *Mentha piperita;* Spearmint, M. *viridis;* and Penny-royal, M. *Pulegium.* They are all of them indigenous to Britain, and hardy perennials; well worthy the attention of those who love to look into flowery hedges,

> "Or into the meadows, where
> Mints perfume the gentle aire,
> And where Flora spreads her treasure."

Pepper Mint grows wild in some parts of Britain, in watery places, and on the banks of streams, flowering in August and September; but it is not a common native plant. There are three varieties of this species; but the variety *a*, of Smith's "English Flora," is the one generally employed in medicine. The

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specimen figured was obtained from Mitcham in Surrey, where considerably more than one hundred acres of this herb are cultivated for the supply of the London market.

From a creeping root arises a stalk that is nearly erect, quadrangular, branched, and generally of a purplish colour, with short recurved hairs, to the height of two or three feet. The leaves stand opposite, on short footstalks, are of a dark green colour, ovate, serrated, acute, varying in breadth, smooth and shining above, and paler, with white and purple veins beneath; the leaves are never downy, but the middle rib, on the under side, is beset with short hairs. The spike of flowers is solitary, bluntish, terminal about the length of the leaves, interrupted and leafy below, with the lowest whorls more distant, and sometimes spiked. The bracteas are lanceolate and fringed. The flower-stalks are either perfectly smooth, or very slightly hairy above. The calyx is slender, furrowed, covered with pellucid dots; the base quite smooth, and five-cleft, with the teeth dark purple and fringed. The corolla is funnel-shaped, longer than the calyx, and of a purplish colour. The filaments are awl shaped, straight, and shorter than the limb. The germen is four-lobed, superior, with a slender style, longer than the corolla, and terminated with a bifid stigma. Fig. (*e*) represents the calyx and pistil; (*f*) the corolla, with the stamens.

In external appearance, Pepper Mint corresponds with *Mentha viridis*, for which it may easily be mistaken; but in that the leaves are sessile, and narrower in proportion to their length; the spikes are longer, and composed of more whorls. "England," says Sir J. E. Smith, "has always been known as the country of the true M. *piperita*. What supplies its place in the north of Europe, is merely a variety of M. *hirsuta*, having a similar odour; and this is named *piperita* in the Linnæan herbarium." Two varieties, a narrow-leaved and a broad-leaved, are cultivated in gardens, and some variegated kinds are considered as ornamental plants, particularly a reddish variety called Orange Mint.

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MENTHA VIRIDIS.—*Spear Mint.*

SPEC. CHAR. *Spikes* interrupted. *Leaves* sessile, lanceolate, acute, naked. *Bracteas* bristle-shaped, somewhat hairy, as well as the teeth of the calyx. *Flower-stalks* smooth.

Syn.—Mentha, *Camer. Epit.* 477. *f.*

Mentha romana, *Ger. Em.* 680. *f.*

Mentha hortensis tertia, *Fusch. Hist.* 290. *f.*

Mentha romana officinarum, sive prestantior augustifolia, *Lob. Ic.* 507. *f.*; *Moris. v.* 3. 367. *sect.* 11. *t.* 6. *f.* 1.

Mentha viridis, *Lin. Sp. Pl.* 804; *Willd. v.* 3. 76; *Smith Tr. Lin. Soc. v.* 5. 185; *Fl. Brit.* 612; *Eng. Bot. v.* 34. *t.* 2424; *Sole Menth.* 11. *t.* 5; *Woodv. t.* 170. *Stokes, v.* 3. 311.

FOREIGN.—*Baume verte*, Fr.; *Menta Romana*, It.; *Menta*, Sp.; *Frauenmurze*, Ger.

SPEAR MINT grows naturally in marshy places, and by the banks of rivers; but is more rarely met with in this state than the preceding species. It was found many years ago by Hudson, on the banks of the Thames, and Mr. Sole mentions it as growing on a common between Glastonbury and Wells, in a meadow four miles from Bath, and in many places on the banks of the Avon. It produces its flowers in August.

From a root resembling that of the preceding species, rises a stem that is erect, branched, acutely angular, smooth, sometimes purplish, to the height of two or three feet. The leaves are of a lively green colour, about two inches and a half long, and an inch broad, lanceolate, nearly sessile, stand opposite, and are sometimes a little hairy underneath. The stems and branches are terminated by long panicled, acute spikes, the whorls of which are mostly a little remote, and furnished with narrow lanceolate bracteas; the flower-stalks are smooth and polished; the calyx is bell-shaped, generally smooth, having five nearly equal teeth, and sprinkled like the foliage with minute resinous dots; the corolla is funnel-shaped, smooth, and of a light purple colour;

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the stamens are generally shorter than the corolla, with roundish anthers; the germen is four-lobed, with a filiform style, and a bifid stigma. The seeds are four, small, and usually abortive. Fig. (*a*) represents the corolla spread, showing the insertion of the stamens; (*b*) the calyx and pistil.

MENTHA PULEGIUM.—*Penny-royal.*

SPEC. CHAR. *Flowers* whorled. *Leaves* ovate. *Stem* prostrate. *Flower-stalks* and Calyx downy.

Syn.—Pulegium regium, *Ger. Em.* 671. *f.*; *Merr. Pin.* 99.
Pulegium vulgare, *Park Theatr.* 29.
Pulegium, *Raii Syn.* 235. *Bauh. Hist. v.* 3. 256. *f.*; *Fuch. Hist.* 198. *f.*; *Camer. Epit.* 471. *f.*; *Matth. Valgr. v.* 2. 65. *f.*
Mentha Pulegium, *Lin. Sp. Pl.* 807; *Willd. v.* 3. 82; *Smith Tr. Lin. Soc. v.* 5. 216; *Fl. Brit.* 624; *Eng. Bot. v.* 15. *t.* 1026; *Hook. Scot.* 181; *Sole Menth.* 51. *t.* 23. *Woodv. t.* 171. *Stokes, v.* 3. 320.
FOREIGN.—*Menthe peuliot*, Fr.; *Puleggio*, It.; *Poleo*, Sp.; *Polei*, Ger.

PENNY-ROYAL* is a plant pretty generally known, being found every where on heaths in moist places, and flowering in September. Our figure was taken from a specimen growing by the side of a pond on Wimbledon Common; and on the same spot we also found *Acorus Calamus* and *Anthemis nobilis.*

The root of this plant is creeping. The stems are bluntly quadrangular, procumbent, downy at the upper part, and sending up erect, flowering ones to the height of eight or nine inches. The leaves are scarcely an inch in length, petiolated, ovate, obtuse, unequally serrated, with numerous pellucid dots, and slightly hairy underneath. The whorls of flowers, which are supported on short, downy, purplish stalks, are numerous, many-flowered, sessile, and of a pale lilac colour. The calyx is

* It may not be improper here to mention, that the American plant, known by the name of Penny-royal, is entirely different from the Penny-royal of Britain, and belongs to a distinct genus, *Hedeoma.* See *Barton's Vegetable Materia Medica of the United States*, v. ii. p. 168.

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five-cleft, tubular, slender, nearly cylindrical, strongly furrowed, and clothed with downy short hairs; five-cleft, with the teeth unequal, pointed, and fringed. The corolla is longer than the calyx, externally hairy, of a light purple, and sometimes of a white colour. The stamens are erect, and longer than the corolla; the germen is four-cleft, with a slender style, furnished with a bifid stigma. Fig. (*c*) represents a perfect flower, with the calyx removed; (*d*) the calyx and pistil.

In its wild state, the plant trails upon the ground, and strikes root at the joints; but the markets are usually supplied with a garden variety, which is larger than the other, and grows nearly upright.

Many virtues are ascribed to mint by the ancients, but we are ignorant of the species to which they refer. Ovid asks,

> ——————— An tibi quondam
> Fœmineos artus in olentes vertere mentha
> Persephone, licuit?
>
> Ovid Met. l. x. 728.

Pepper Mint, possesses a greater degree of pungency than any of the other kinds. The leaves have a considerable degree of aromatic odour and taste; the taste becoming pungent, followed by a sensation of coolness on the tongue. They afford an essential oil, rich in the aromatic quality and pungency of the herb, and holding camphor in solution.

Peppermint is used as a stimulant and carminative, to obviate nausea, or griping, or to relieve the symptoms arising from flatulence; and, very frequently, to cover the taste and odour of other medicines. It is used for these purposes under the forms of the watery infusion, the distilled water, the essential oil, and the lozenge prepared from the oil or the essence, as it is called, formed by dissolving a small quantity in alcohol. Mr. Neill says, "the young leaves and tops are a good deal used in spring salads in England; they also form an ingredient in soups, or, more frequently are employed to give flavour, being boiled for a time and withdrawn. They are also shredded down, and mixed with

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sugar and vinegar, as a sauce to roasted meat, particularly lamb."

Off. Prep.—Aqua Menthæ Piperitæ. *L. E. D.*
Oleum Menthæ Piperitæ. *L. E. D.*
Spiritus Menthæ Piperitæ. *L. E.*
Infusum Menthæ Compositum. *D.*

Spearmint and *Penny-royal*, resemble the peppermint in their qualities, but are less pungent.

Spearmint is used for culinary purposes, and gives out its virtues both to water and alcohol: an essential oil is also obtained from it.

Off. Prep.—Aqua Menthæ viridis. *L. E.* sativæ, *D.*
Oleum Menthæ viridis. *L. D.*
Spiritus Menthæ viridis. *L.*
Infusum Menthæ Compositum. *D.*

The directions for this infusion are: "Take of the leaves of Spearmint dried, two drachms; boiling-water, as much as is sufficient fo afford six ounces of infusion when strained. Digest for half an hour in a covered vessel; strain the liquor when cold, and add to it, of refined sugar two drachms; oil of Spearmint, three drops, dissolved in half an ounce of compound tincture of cardamoms." It is a grateful stomachic, which may be used to obviate flatulence; or as a vehicle to cover the taste of unpleasant medicines.

Penny-royal yields an essential oil containing a small portion of camphor. It was formerly used as an emmenagogue; and although it possesses no such virtues, the Aqua Pulegii, known by the name of "hysteric water," is still much employed by the vulgar, to remove uterine obstructions. Like the other Mints it is a carminative stimulant, but is seldom precribed by medical practitioners.

Off. Prep.—Aqua Pulegii. *L. E. D.*
Oleum Pulegii. *L. D.*
Spiritus Pulegii. *L.*

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Convolvulus Jalapa.

J. Clark del. et Sculp.

London Published by John Churchill, Princes Square, Oct. 18[illegible]

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CONVOLVULUS JALAPA.

Mexican or Jalap Bindweed.

GEN. CHAR. &c. See *Convolvulus sepium.*

SPEC. CHAR. *Leaves* ovate, somewhat cordate, obtuse, obsoletly repand, villous underneath; peduncles one-flowered.

Syn.—Convolvulus americanus, Jalapium dictus, *Raii Hist. v.* 1. 724.
Bryonia Mechoacana nigricans, *Bauh. Pin.* 298.
Cacamotic Tlanoquiloni, seu Batata purgantia, *Hernand. Mexic.* 229. *cap.* 54.
Convolvulus foliis variis, pedunculis unifloris, radice tuberosa, *Mill. Dict. ed.* 8. *n.* 31.
Ipomœa Jalapa, *Pursh. Amer. Sept.* 1. 146; *Bot. Regist. v.* 8. 342.
Jalapa; flore roseo, foliis sepius integris convolvulus Jalapa, *Lin. Mant.* 42. *ejusd. Mat. Med.* 60.
Convolvulus Jalapa, *Hort. Kew.* 1. 211. *ed.* 2. 1. 332; *Willd. Sp. Pl.* 1. 860; *Curt. Magazin.* 1572; *Woodv. t.* 21; *Stokes, v.* 1. 313.
FOREIGN.—*Jalap*, Fr.; *Scialappa*, It.; *Jalapa*, Sp.; *Jalappenharz*, Ger.

THE Convolvulus Jalapa is a native of Mexico, and is the produce of the temperate region, principally in the neighbourhood of Xalapa, and hence its appellation. It abounds on the eastern slope of the Cordillera of Anahuac, between the 19° or 20° of latitude, and in the same latitude is procured the vanilla and sarsaparilla. From 200,000 to 300,000 pounds are annually exported from Vera Cruz. Although the root forms a well-known and valuable cathartic, which is perhaps more generally employed than any other of vegetable origin, it was not till of late that the genus of the plant, to which it belongs, was accurately ascertained. It seems to have been first brought into Europe by Dr. Houstoun, and communicated to Miller, before the year 1733. Our figure was taken from a fine specimen which flowered this autumn (1827) in the garden belonging to the Apothecaries'

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Company at Chelsea. In its wild state, the plant delights in a dry sandy soil, and flowers in August and September.

The root is perennial, large, of an irregular oblong shape; externally blackish, and when fresh, abounding with a milky juice. The stems are numerous, herbaceous, slender, twining, like those of C. *sepium*, round any support, striated, and rises to the height of eight or ten feet. The leaves vary very much in shape; they are petioled, obsoletly serrated, smooth on the upper surface, and hoary or tomentose underneath; the lower ones are generally more or less heart-shaped, but often lobed, as represented in the plate; the upper ones more oblong and acute. The flowers are large bell-shaped, plaited, entire, and stand upon short axillary peduncles, each bearing one or more flowers of a rose-colour externally, and a dark purple within; the calyx consists of five oval, concave, pale green leaves; the anthers are of a pale yellow colour, large, oblong, and tapering; the filaments, which do not protrude beyond the tube, are slender, varying in length, covered at the base with short purple hairs, and inserted into the corolla. The germen is oval, supporting a slender style, crowned with a roundish two-lobed stigma. The seeds are said to be covered with a very white cottony down. Fig. (*a*) represents the stamens, showing their insertion into the corolla; (*b*) the pistil; (*c*) a lower leaf in outline.

Qualities and Chemical Properties.—The dried root of Jalap is imported in thin transverse slices, and in round masses; it is solid, hard, and heavy; of a dark grey colour, and striated appearance. It has a sickly smell, and a sweetish, sub-acrid, nauseous taste. Powdered, it is of a pale yellow brown colour. Proof spirit is its proper menstrum. When dear, it is often adulterated with scammony, or gamboge—if with briony root, the powder is of a paler colour, and it burns less readily when applied to the flame of a candle. Even two parts of black resin, are sometimes mixed with one of Jalap, "but this may be known by putting the powder into rectified spirit, which will dissolve the resin of the Jalap, but not touch the other." By M. Henry's analysis, the constituents of three varities of Jalap are—

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	Jal. leger.	Jal. sain.	Jal. pique.
Resin . . .	60	48	72
Extract . . .	75	140	125
Starch . . .	95	102	103
Woody-fibre	270	210	200
	500	505	500

Jalapine or *Jalapia.*—Mr. Hume, jun. of Long Acre, is said to have discovered a vegeto-alkaline principle in Jalap, and proposes to call it *Jalapine*. It is procured in the following manner. Coarsely powdered jalap is macerated for twelve or fourteen days, in strong acetic acid; a highly coloured tincture is thus obtained, which, when filtered, is to be supersaturated with ammonia, and this must be violently shaken; a sabulous deposit will fall rapidly, and a few crystals will form on the sides of the vessel. The deposit and crystals are to be collected, and washed with distilled water, again dissolved in a small quantity of concentrated acetic acid, and reprecipitated by ammonia added in excess, which throws down the jalapine in small white acicular crystals.

Jalapine is without any perceptible taste or smell, and seems to be heavier than morphia, quinia, or other substances of this class; it is scarcely soluable in cold water, and only to a small extent in hot water; ether has no effect upon it; alcohol is its proper solvent. Very little trouble is requisite to purify jalapine from extractive or colouring matter, for which it appears to have but a slight affinity.

Mr. Hume has not made many experiments upon this substance, but thinks that about one ounce of jalap will, on careful treatment, afford about five grains of the substance."

Medical Poperties and Uses.—Jalap is an active purgative, and one on which we can rely. It produces copious evacuations from the small and large intestines, and would be administered much oftener, were it not for the griping and distressing nausea that often arise from it. It is, notwithstanding, a safe medicine, and combined with other purgatives, has been proved by Dr. James Hamilton to be of eminent use in typhus, scarlatina, cynanche maligna, marasmus, chorea and tetanus. Added to the supertartrate of potass, it produces copious watery evacuations; and an increased secretion of urine generally accompanies these alvine discharges: indeed, by a judicious and persevering use of this preparation, which by the Edinburgh College is termed the "Compound powder of Jalap," it is astonishing how much good has been effected in dropsical cases. A watery extract is ordered by the Dublin pharmacopæia, which

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is said to purge moderately without griping, and is therefore well adapted for children. Both the London and Edinburgh Colleges order an alcoholic extract, which is generally so carelessly prepared that no reliance can be placed on it; but when good, it is a more active preparation than the former, exerting its effects in doses of ten or twelve grains. Jalap is best given in substance, in doses, from ten grains, to half a drachm, combined with a drop or two of any essential oil. The preparations are seldom prescribed.

OFF. PREP.—Pulv. Jalapæ Comp. Ed.

DOSE, two drachms. *L. E. D.*

Extractum Jalapæ. *L. E. D.*

Tinctura Jalapæ. *L. E. D.*

Tinctura Sennæ Comp. *E.*

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Styrax officinale.

W. Clark del. et sculp.

London. Published by John Churchill, Leicester Square. Decr. 1827.

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STYRAX OFFICINALE.

The Officinal Storax-tree.

Class X. DECANDRIA.—*Order* I. MONOGYNIA.

Nat. Ord. BICORNES, *Lin.* GUACIANÆ, *Juss.*

GEN. CHAR. *Calyx* inferior, pitcher-shaped. *Corrolla* funnel-shaped. *Stigma* simple. *Drupe* coriaceous, 2-seeded.

SPEC. CHAR. *Leaves* ovate, bluntish, entire; downy beneath. *Clusters* simple of few flowers.

Syn.—Styrax, folio mali Cotonei, *Bauh. Pin.* 452; *Tourn. Inst.* 598; *Ger. Em.* 1526.

Styrax, *Matth. Valgr. v.* 1. 80; *Camer Epit.* 80; *Lob. Ic. v.* 2. 151.

Στυραξ Diosc. lib. 1. cap. 79.

Στουράκι, η λαγομηλιὰ, *hodie.*

Styrax Officinale, *Lin. Sp. Pl.* 635; *Willd. v.* 2. 623; *Ait. Hort. Kew. ed.* 2. *v.* 3. 59; *Sibth. Fl. Grec. t.* 375; *Woodv. v.* 1. *t.* 71; *Stokes Bot. Mat. Med. v.* 2. 516.

FOREIGN.—*Storax*, Fr.; *Storax*, Ger. Dan. Swed.; *Storace*, It.; *Storaque*, Port.; *Azumbar*, Sp; *Styraxboom*, Dut.

THIS tree, or shrub, is chiefly remarkable for producing the very powerful and fragrant balsam, called storax. It is a native of Syria, and the Levant; and is not uncommon all over Greece and the Peloponnesus, being known by the name of λαγομηλιά, in modern Greek. Dr. Sibthorp found it called γουράκι, a slight alteration of its original appellation. The shrub is naturalized in hedges in some parts of Italy, particularly about Tivoli, and was cultivated in England by Gerarde, before the year 1597. It is rarely met with in our gardens; but a very large tree is trained against a wall in the Botanic

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Garden at Chelsea, and regularly clothed with a profusion of its white blossoms every year, in May or June. This tree, Sir James Smith informs us, is the finest he ever beheld; and we are obliged for the specimen, from which our figure was taken, to Mr. William Anderson, F. L. S. an eminent practical botanist and gardener.

The Storax-tree is of a middling size, seldom exceeding fifteen or twenty feet in height, with irregular, alternate, round, leafy branches, downy when young. The leaves are deciduous, elliptical, entire, somewhat pointed, and well compared by the old botanists to those of a quince; they are alternate, petiolate, smooth, of a fine green colour on the upper surface, and covered with hoary stellated down underneath. The flowers are in clusters terminating the young lateral shoots, containing from two to five, or six white flowers each. The calyx, as well as the corolla is white and downy; the corolla is monopetallous, funnel-shaped, and divided at the limb into five deep, elliptical, oblong, obtuse, spreading segments: the filaments are ten, placed in a ring, awl-shaped, and inserted into the corolla; the anthers are yellow, erect, and oblong; the germen is oval, with a slender style and simple stigma. The fruit is a drupe of a globular form, containing one or two angular nuts, convex on one side and concave on the other. Fig. (*a*) represents the germen and pistil; (*b*) the stamens and anthers with the corolla removed; (*c*) the fruit.

Qualities and Chemical Properties.—The best Storax comes only from Asiatic Turkey, and is obtained in a fluid state, from incisions made in the bark of the trunk, or branches of the Storax-tree. It is brought from Turkey, but is so adulterated, that it is very rarely met with in a pure state. Storax is bitter and pungent to the taste, and has a strong fragrant odour. Two sorts of this balsam are found in the market: Storax in the tear, and common Storax in larger masses. This has been called "storax in the lump," "red storax," and the separate tears, "storax in the tear." The former is very rarely in separate tears, but in masses, composed of white and pale reddish tears, or having a uniform reddish yellow, or brownish appearance; being unctious to the touch; soft like wax; and free

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from visible impurities. This is the Στύραξ καλαμίτης, of the ancient Greeks. According to Galen, it was formerly brought from Pamphylia, in hollow canes or reeds; whence it was called *Styrax calamita*. It is preferred to the common storax, in larger masses, which are lighter; less compact than the preceding; and have a large admixture of woody matter, like saw-dust. Although the impurities of this kind of Storax render it less valuable than the other, it is not less useful, and when purified, its medical qualities are no less potent. Storax should be chosen of a reddish brown colour; rather softish; unctuous to the touch, yet brittle and friable; and of a pleasant, sweet smell. From its yeilding a pleasant odour of benzoic acid, when ignited, it is much used in Roman Catholic countries for incense.* Spirit dissolves it entirely; it consists principally of resin, with a small portion of benzoic acid. The directions in the London Pharmacopœia for purifying Storax, are: "Dissolve BALSAM OF STORAX in rectified spirit, and strain it; then distil off the spirit by a gentle heat, until the balsam acquire a proper consistence." The Dublin College adopt a plan which is practised abroad; but it is somewhat objectionable, in consequence of an evolution of benzoic acid being produced by the heat of the iron plates.

It may not be improper here to observe, that the Storax of the Pharmacopiœa ought not to be confounded with the Storax, or Liquidambar of commerce, which is a *liquid* balsam, said to be obtained from the Liquidambar *styraciflua*, a tree which grows in Virginia and Mexico, and has lately been naturalized in our own country. It is prepared, according to Petiver, in the island of Colross in the Red Sea, from the bark of a tree called *rosa mallos* by the natives, and considered by botanists the same as the American species. The bark of this tree is boiled in salt water to the consistence of bird-lime, and then put into casks.

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* The following is an excellent form for *fumigating pastiles*;—
Take of Charcoal eight ounces.
Gum-storax,
—— Mastich,
—— Benzoin, of each one ounce.
—— Copal half an ounse.
The whole must be finely powered, and made into a proper consistence, by starch mucilage; after which the pastiles are properly formed.

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Its colour is greenish; it has an aromatic taste, and an agreeable smell. That which is met with in the shops under this name, is of a weak smell, and a grey colour, and is supposed to be an artificial composition. Liquid storax was formerly used in external compositions, but is now entirely neglected.

MEDICAL PROPERTIES AND USES.—Storax is stimulant and expectorant, and was formerly prescribed for asthma, and chronic affections of the wind-pipe; for amenorrhœa, &c. It is so far discarded from practice, that we never remember it to have been prescribed, and is justly designated by Dr. Richard Pearson, as a useless article in the list of the materia medica.

OFF. PREP.—Tinct. Benzoini Composita. *L.*
Styrax purificata. *D.*
Pilulæ e Styrace. *D.*

In the latter preparation, Storax appears to be added to opium, not on account of its virtue, but rather to disguise the administration of that powerful substance from patients, who are sometimes exceedingly prejudiced against it. "Even the name of opium," remarks Dr. John Murray, "requires to be concealed in a prescription;" and hence the reason of the names (Pilulæ Saponis cum Opio, and Pilulæ e Styrace) given by the London and Dublin Colleges, being derived from the trivial ingredients.

It is remarked, in a very useful little work,* that four Balsams appear in the Pharmacopœia, which are denominated,

Benzoinum.
Balsamum Styracis.
Balsamum Peruvianum,
Balsamum Tolutanum.

In these names we find a singular want of uniformity, a defect which certainly ought not to exist in a work, the nomenclature of which has been so often changed on systematic principles—thus, in the first of these names, we have a *simple term;* in the second a *generic*, and a *specific noun;* in the third and fourth, a *generic noun, and specific adjective.* Two years after these observations were published, a revised edition of the Pharmacopœia appeared, but no notice is taken of these glaring inconsistences.

* Medicamina Officinalia, seu Pharmacopœiæ Londinensis, Index Methodicus Cura F.A. Macann, M. D.

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Polygonum Bistorta.

W. Clark del. et sculp.

London. Published by John Churchill. Leicester Square. Dec.r 1827

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POLYGONUM BISTORTA.

Great Bistort, or Snake-weed.

Class VIII. OCTANDRIA.—*Order* III. TRIGYNIA.
Nat. Ord. HOLERACEÆ, *Lin.* POLYGNOEÆ, *Juss.*

GEN. CHAR. *Corolla* 5-parted, calycine, inferior. *Seed* 1, naked.

SPEC. CHAR. *Stem* simple, bearing one spike. *Leaves* ovate, waved, the radical ones running down into the footstalks.

Syn.—Bistorta, *Matth. Valgr. v.* 296. *f.*; *Camer. Epit.* 683. *f.*
Bistorta major, *Ger. Em.* 399. *f.*; *Raii Syn.* 147.
Bistorta major, radice minùs intortâ, *Bauh. Pin.* 192; *Mill. Ic.* 44. *t.* 66.
Serpentaria mas, seu Bistorta, *Fusch. Hist.* 773. *f.*
Polyonum Bistorta, *Lin. Sp. Pl.* 516; *Willd. v.* 2. 441; *Eng. Bot. v.* 8. *t.* 509; *Curt. Lond. fasc. l. t.* 22; *Hook. Scot.* 120; *Woodv. t.* 34; *Stokes, v.* 2. 394; *Bull. Fr. t.* 314.
PROVINCIALLY. *Bistort; Oyster loit; Adder's-wort; Passions,* Cheshire; *Easter Giant, Patience Dock,* Manchester; *Stoinsi,* Ireland.
FOREIGN.—*Bistorte,* Fr.; *Bistortat,* It. Sp. Port.; *Natter-wurzel,* Ger.; *Slangeort,* Dan.; *Sertechuaja trawa,* Russ.

BISTORT is an indigenous perennial plant, growing abundantly in many parts of Britain, particularly in the northern counties, where it frequently proves a very troublesome weed. We found it in large patches in the meadows at Battersea, and also on the north side of Bishop's Wood near Hampstead, where it is said to have grown for more than half a century. It flowers in May and June.

The root is creeping, woody, and generally more or less bent and crooked; it is about the thickness of a finger, surrounded with slender fibres, of a brownish black colour on the outside, and reddish within. The stem is solitary, simple, erect, about a foot or eighteen inches in height, round, swelling at the joints, striated and smooth. The leaves are entire, ovate, smooth,

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somewhat flexuose, of a bright green colour above, and glaucous beneath; the radical ones are somewhat cordate, pointed, and stand upon long winged, or rather decurrent footstalks; those of the stem are almost sessile, amplexicaule, having tubular, sheathing footstalks, each furnished with membranous stipulæ. The flowers terminate the stem in a close cylindrical spike, about two inches in length; each of them stands single on very short slender stalks, with membranous, notched, brown bracteas at the base. The calyx is rose-coloured, and deeply divided into five obtuse segments; the stamens are eight, tapering, longer than the calyx, and supporting purple anthers; the germen is triangular, bearing three distinct styles, with small obtuse stigmas. The seeds are triangular, black, and shining. Fig. (*a*) represents a perfect flower magnified; (*b*) the germen and styles.

According to Professor Alston, the name of this plant, Bistorte, *quasi bis torta*, twice twisted or wreathed, is of modern date; for it was formerly termed *Serpentaria*, *Colubrina*, and *Dracunculus*, Hoffman remarking, "Radix est serpentis modo intorta." The generic name Polygonum, is adopted from Dioscorides, whose πολληγγονον ἀρρην, or male polygonum, is regarded as our P. *aviculare*, or common knot-grass.

Qualities.—The root of Bistort, the part used in medicine, is inodorous; but to the taste very astringent. It gives out its virtues to water, and "turns a solution of green vitriol to ink."

Medical Properties and Uses.—Bistort is really a very powerful astringent, and appears to be neglected merely because it grows in almost every meadow. The powdered root, in doses of a drachm, will be found useful in hæmorrhage, diarrhæa, and chronic dysentery; and combined with bitters, has been recommended for the cure of intermittent fever, by Dr. Cullen. By the following quotation from Gerarde it will be seen, that its virtues were much better appreciated in former times: "The iuyce of Bistort, put into the nose, preuaileth much againste the the disease called Polypus. . . . . The root boyled in wine, and drunke, stoppeth the laske and bloudy flix; it stayeth also the ouermuch flowing of women's monethly sicknesses. The roote taken as aforesaid, stayeth vomiting, and healeth the inflammation and sorenesse of the mouth and throat: it likewise fastneth loose teeth, being holden in the mouthe for a certain space, and at sundry times."

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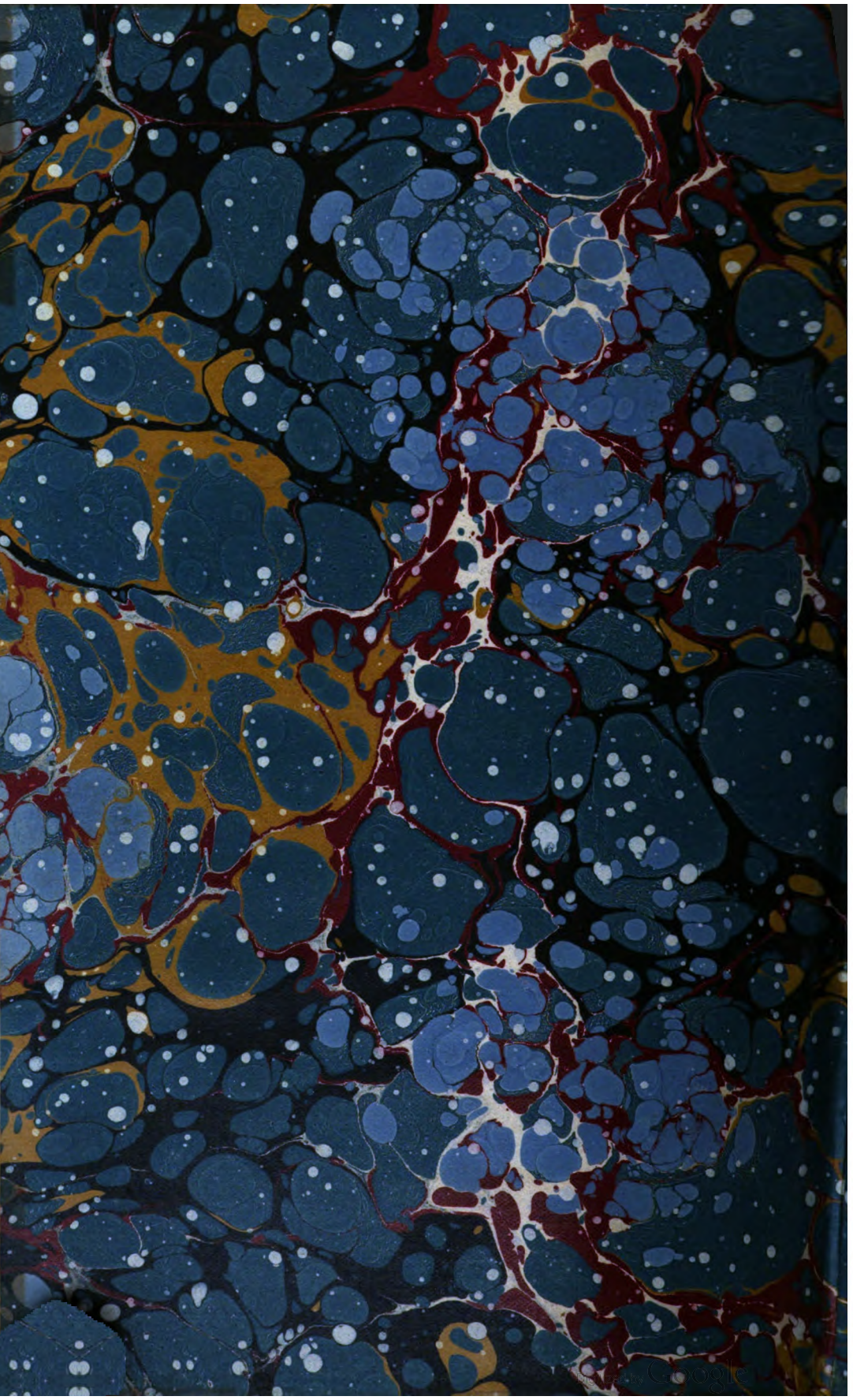

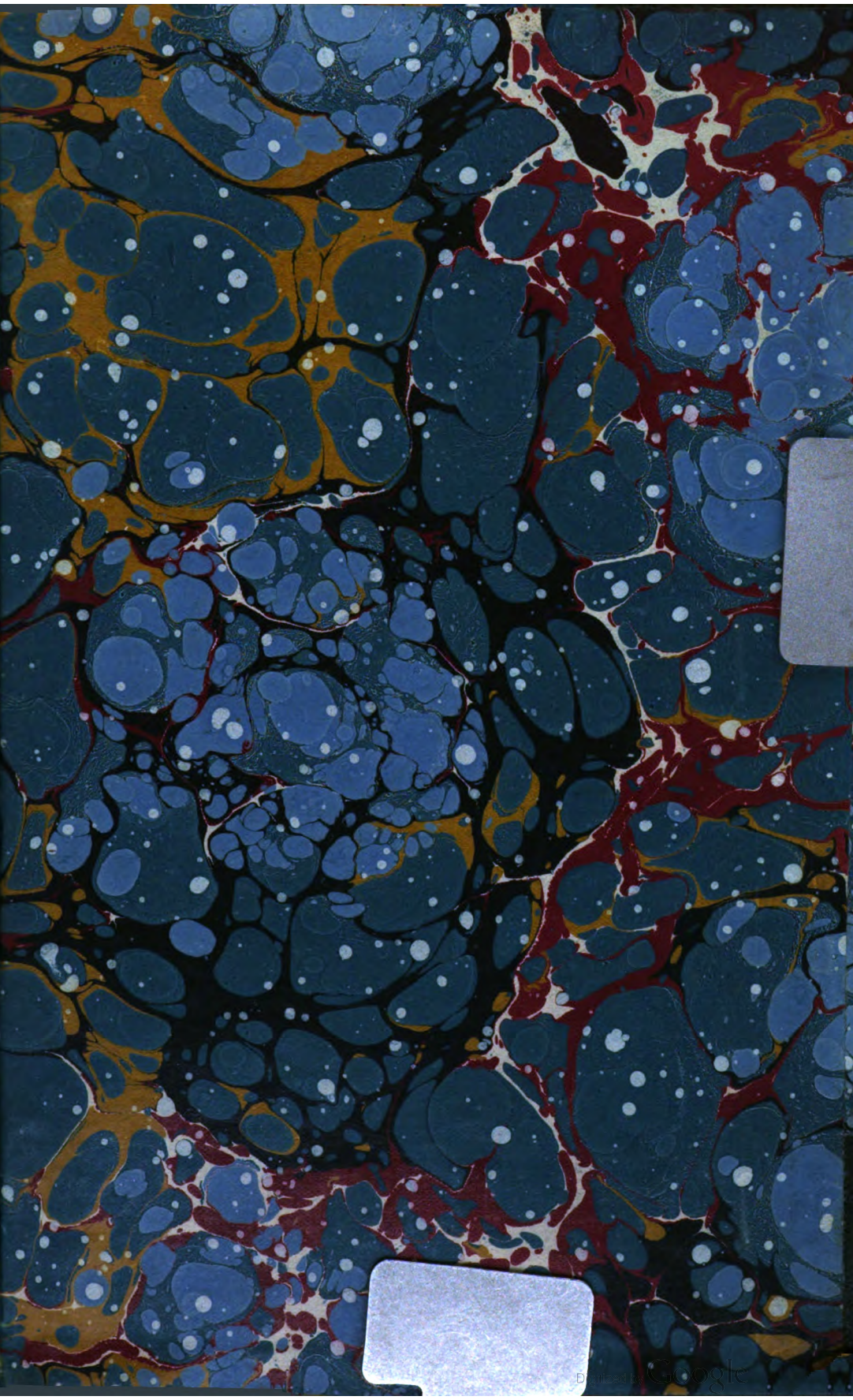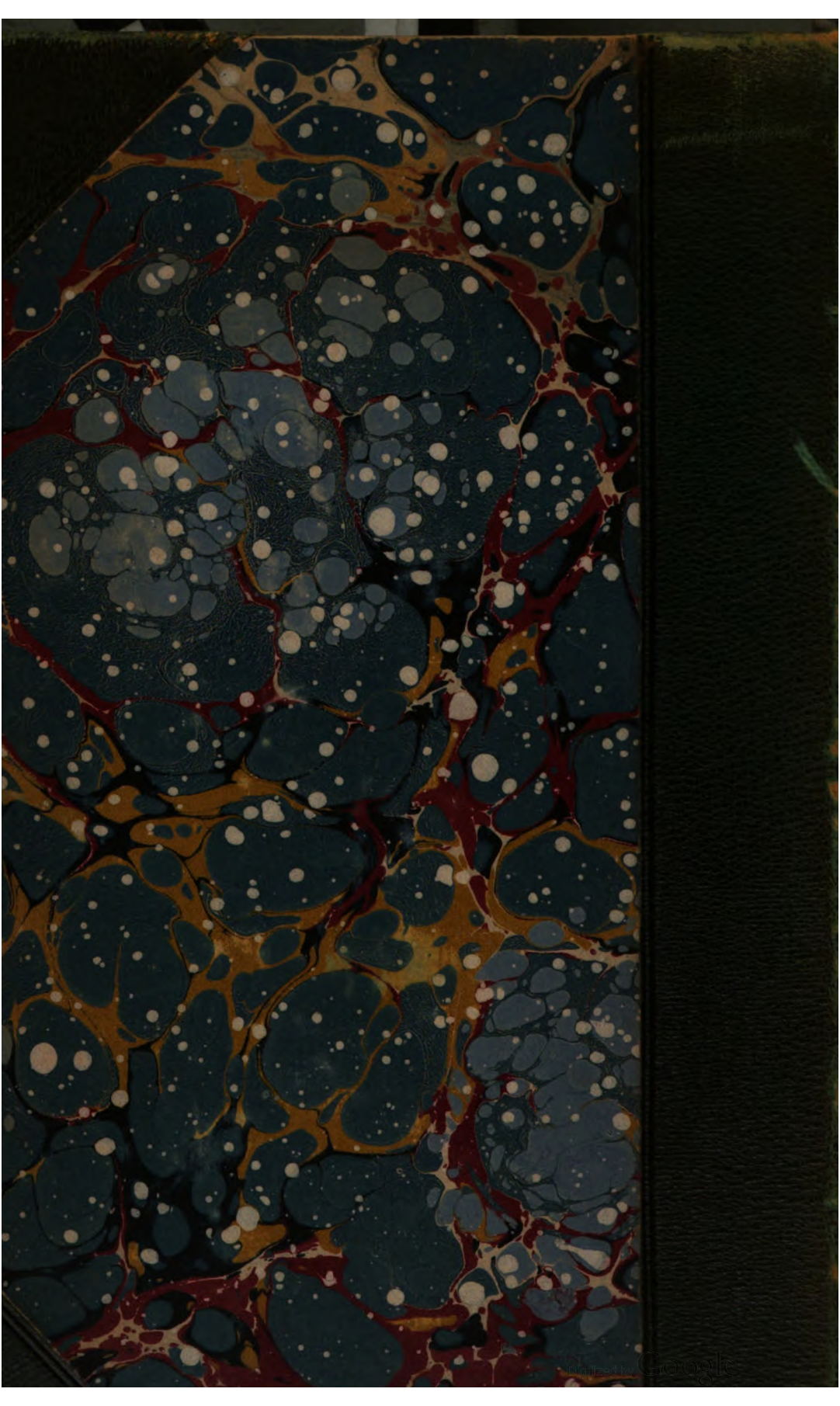
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